[illegible]

Vol.9 - 1990
Vol.10 - 1991

51

ISSN 0970 = 0188
JAN-MARCH 1990

C.F.T.R.I.

90/

# NISSA
NEWSLETTE

rterly Organ of National Information
ystem for Science & Technology
Department of Scientific &
Industrial Research, New Delhi

NISSAT

NEWSLETTER

Vol. 9 No. 1 Jan. Mar., 1990

**Editorial Committee**

Dr. A. Lahiri
Director (NISSAT)
Dept. of Scientific & Industrial Research
New Delhi-110016.

(Mrs.) S. Ravindran
Dept. of Scientific & Industrial Research
New Delhi- 110016.

B.G. Sunder Singh
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri T.S. Rajagopalan
Society for Information Science
c/o PID, New Dehi-110012.

Shri P.C. Bose, Secretary,
Society for Information Science
c/o ARIC, New Delhi-110012.

Shri R.N. Sharma
Society for Information Science
c/o PID, New Delhi-110012.

**Editor: Ram D. Taneja**

**Editorial Office** : S-371, Greater Kailash-I,
New Delhi-110048.

© 1990 DSIR, New Delhi.

Published by the Society for Information Science on behalf of
National Information System for Science & Technology (NISSAT),
DSIR, Government of India,
Technology Bhawan,
New Delhi-110016.

**NISSAT Newsletter,** published quarterly, is the official organ of NISSAT, and is aimed at disseminating information concerning programmes, activities and achievements of NISSAT as also of the various centres functioning under it. Additionally, it attempts to project major developments in the field of information science at national and international levels.

Communications concerning the Newsletter may be addressed to Dr. A. Lahiri, Director (NISSAT), Department of Scientific & Industrial Research, Government of India, Technology Bhawan, New Mehrauli Road, New Delhi-110016. Material published in the Newsletter can be reproduced with due acknowledgement to the source.

**Cover Design:** N.N. Sethi, Associated Artists,
New Delhi-110001.

# LIS: Coming of Age

MYSORE

It is encouraging to note that the profession of library and information science has attained near maturity. The dingy ill-lit warehouses of books and periodicals have given way to neatly laid out information material in floodlit rooms. Today computerized information retrieval systems are being experimented upon in about 300 institutions in the country. Passive front desk issue clerks are increasingly being replaced by aggressive marketers of information products and services who are establishing communication systems between resource managers and resource users. The seldom seen librarians have shed their aloofness and found a place for themselves in the higher decision-making bodies of their institutions. In yesteryears, the centres existed in total isolation. Their intent to cooperate among themselves is now clear. Though driven more by resource crunch, endeavours for resource sharing are not all that uncommon.

Earlier, personality clashes usually came to the fore even on technical points. Now the information scientists argue on technical terms like any other scientist or engineer (The recent debate on adoption of one bibliographic format is a case in point).

Information centres are no longer bottomless pits in which investments are sunk without any visible development. The field is also receiving entrepreneural attention. Private enterprises in Bangalore and Delhi are visible pointers.

It's not just that the information scientists have matured; the information users have also started taking information scientists seriously. Users have come to realize that the job of information handling is not all that simple and requires a long-drawn formal training. Recent tender enquiries floated an information handling assignments, for example, on retrospective conversion by DESIDOC Delhi, and on databank development by CMDA Calcutta. Earlier assignment on library management completed by, say ILA, at the Lal Bahadur Shastri Academy, may also to be recalled in this context. The two assignments, namely, consultancy to set up NACIDs and the turnkey job on MST library automation both awarded by NISSAT to DESIDOC are more recent developments.

If they live upto the expectation of the people, information scientists may be called upon to take up more such consultancy and turnkey assignments. The concepts in accountability like investment output and time--output relationships which are inherent to such assignments--would help nurture professionalism and pave the way to a higher degree of maturity.

**NISSAT**

NEWSLETTER

Vol. 9 No. 1 Jan. Mar., 1990

## CONTENTS

LIS: Coming of Age 1

CDS/ISIS Application in India- A perspective 3

Availability of High-Cost Periodicals in S&T Libraries in Calcutta- Study Report 6

Creation and use of Databases in Social Science 8

Local Area Network: Its Significance in information system - SIS convention, Goa 9

Recent Publications 12

NISAAT - INSDOC Courses 15

Calender of Meetings, 1990 16

News and Events 20

# CDS/ISIS Applications in India — A Perspective

**Sreedevi Ravindran**
*NISSAT, New Delhi*

India is one of the few countries in the world which have made extensive use of CDS/ISIS package since its release in 1985. The factors which contributed to this are :

i) need for a software package to meet information needs of the scientific community,

ii) involvement of National Information System for Science & Technology (NISSAT) in the distribution and extensive training programmes on CDS/ISIS, and

iii) enthusiasm of the recipient Institutions for its implementation.

NISSAT was established in 1977 for the development of a compatible set of information systems in S&T and interlinking them into a network. The programme envisaged experimentation with the introduction of modern information handling tools and techniques and development of endogenous capabilities for the purpose. The induction of CDS/ISIS was, therefore, one of the technical solutions for a long felt need. The initial phase of CDS/ISIS implementation is characterised by the development of small databases to gain sufficient experience and training on the features and capabilities of the package.

CDS/ISIS was also distributed to selected scientific libraries and information centres with adequate training support. The implementation of CDS/ISIS in these institutions was monitored regularly through exchange of information and user's group meetings. The statewise distribution of recipient institutions is given in Table 1.

**Table 1 Statewise Distribution of CDS/ISIS***

| State | Ver. 1.0 | Ver. 2.3 |
|---|---|---|
| Andhra Pradesh | 23 | 15 |
| Assam | 02 | 00 |
| Bihar | 03 | 04 |
| Chandigarh | 02 | 03 |
| Delhi | 65 | 56 |
| Gujarat | 09 | 05 |
| Haryana | 02 | 05 |
| Himachal Pradesh | 02 | 05 |
| Jammu & Kashmir | 01 | 02 |
| Karnataka | 21 | 11 |
| Kerala | 08 | 06 |
| Madhya Pradesh | 04 | 05 |
| Maharashtra | 41 | 22 |
| Orissa | 03 | 04 |
| Pondicherry | 01 | - |
| Punjab | 03 | 03 |
| Rajasthan | 05 | 01 |
| Tamil Nadu | 27 | 08 |
| Uttar Pradesh | 12 | 10 |
| West Bengal | 10 | 10 |
| Total : | 243 | 173 |

* As on 1st Jan., 1990

During mid 80's, personal computers were becoming popular in Indian market and there were about thirty odd manufacturers. These were IBM PCs clones but not 100% compatible machines. An exercise was made to test whether these machines could support CDS/ISIS in part or in full. Of the 21 brands of machines tested, only three gave some problems and others were capable of supporting the package.

NISSAT adopted a multi-directional approach to meet the manpower requirements of the information centes for automation and adaptation of CDS/ISIS package. This included:

- Adoption of CDS/ISIS as a topic of study in the regular long-term computer application courses conducted for information scientists,
- Short-term crash courses for library and information professionals, and
- *Ad hoc* courses for groups of institutions in different parts of the country.

CDS/ISIS is now included as a module in the long-term regular courses conducted by INSDOC and DRTC. Regular short-term courses are organised in Pune University, Delhi University, INSDOC, New Delhi and DRTC, Bangalore. *Ad hoc* courses have been organised by a number of institutions in different parts of the country. A summary of the number of courses and participants is given in Table 2.

**Table 2 Number of courses and participants in CDS/ISIS**

| Year | Type of Course | Number of Courses | Number of Persons Trained |
|---|---|---|---|
| 1986 | Ad hoc | 3 | 86 |
| | Short-term | 1 | 09 |
| | Long-term | - | - |
| 1987 | Ad hoc | 10 | 213 |
| | Short-term | 3 | 39 |
| | Long-term | - | - |
| 1988 | Ad hoc | 22 | 441 |
| | Short-term | 4 | 58 |
| | Long-term | 1 | 15 |
| 1989 | Ad hoc | 8 | 163 |
| | Short-term | 12 | 207 |
| | Long-term | 2 | 25 |
| Total | Ad hoc | 43 | 903 |
| | Short-term | 20 | 313 |
| | Long-term | 3 | 40 |
| G.Total | | 66 | 1256 |

A self sustained momentum is now visible in the application of CDS/ISIS package in India. This is evidenced by a survey of CDS/ISIS users. Though the response to the survey is still incomplete, the available data show encouraging results. Out of 139 institutions, which responded to the survey questionnaire, as many as 76 have successfully implemented the package for various applications. The major areas of use are in Cataloguing (20), Indexing & Abstracting (17) and Current Awareness (15). The major non-bibliographic application is the preparation of directories. A summary of the applications is given in Table 3.

**Table 3 Distribution of Institutions According to Type of CDS/ISIS Applications**

| Type of Application | No. of Institutions |
|---|---|
| A. Bibliographic | |
| Acquisition | 08 |
| Cataloguing | 20 |
| Circulation | 05 |
| Serial Control | 07 |
| Indexing & Abstracting | 17 |
| Current Awareness | 15 |
| SDI | 04 |
| Special Bibliography & Others | 15 |
| B. Bibliographic | |
| Patients Record | 01 |
| Students record | 02 |
| Mailing List | 02 |
| Directories | 11 |
| C. External Programs | |
| DBASE | 05 |
| PASCAL | 03 |

Most of the institutions which have implemented the package are those with advanced training, research and technology. The record formats used for developing the applications varied. A majority of the users were using CCF. The distribution of institutions according to the format used is given in Table 4.

**Table 4 Distribution of Institutions According to Record Formats**

| Standards | Number of Institutions |
|---|---|
| CCF | 17 |
| AACR2 | 3 |
| MARC | 7 |
| Local | 6 |
| Not Reported | 43 |
| Total | 76 |

Non-availability of trained personnel has been reported as the major reason for non-implementation of the package by some of the institutions. Problems of hardware and other local reasons also contributed to the failure in many institutions (Table 5).

**Table 5 Distribution of Institutions : Reasons for not using the Package**

| Reason | Number | Percentage |
|---|---|---|
| Lack of Training | 20 | 31.75 |
| Lack of suitable computer and non-availability of computer time | 21 | 33.33 |
| Problems of package | 4 | 6.35 |
| Problems of initial setting | 2 | 3.17 |
| Non-receipt of package | 5 | 7.94 |
| Other reasons | 11 | 17.46 |
| Total | 63 | |

The problems frequently reported by the users of the sofware are:

i) Package supports only single user,

ii) No security, no password system,

iii) Difficulties in menu-modification and display format, and

iv) Difficulty in data entry.

Out of the 63 institutions not using the package, 57 are intending to use for various applications like cataloguing, indexing, acquisition, circulation, serial subscription, current awareness, etc. The distribution of these institutions according to the type of application is given in Table 6.

**Table 6 Distribution of Institutions According to Type of CDS/ISIS Applications**

| S. No. | Type of application | No. of Institution |
|---|---|---|
| A. | Bibliographic | |
| 1. | Cataloguing | 50 |
| 2. | Indexing | 38 |
| 3. | Acquisition | 40 |
| 4. | Circulation | 35 |
| 5. | Serial subscription | 35 |
| 6. | Current awareness | 39 |
| 7. | SDI | 6 |
| 8. | Others | 16 |
| B. | Non-Bibliographic | |
| 1. | Personnel records | 28 |
| 2. | Students records | 14 |
| 3. | Mailing lists | 6 |
| 4. | Others | 5 |

CDS/ISIS is rapidly becoming a useful package for library and information centres and scientific institutions in India. It is almost accepted as an industry standard for information storage and retrieval services. The successful modification of the package to handle library management and support local scripts would improve its acceptability in India. The experiment taken up by NISSAT to use the package for a total automation of library activities is likely to open-up new vistas for its future applications.

# Availability of High-Cost Periodicals in S & T Libraries in Calcutta: Study Report

The Department of Scientific & Industrial Research sponsored, under its NISSAT Programme, a series of studies to collect data on the availability of high-cost S&T journals in major city centres with a view to providing better access to and promoting greater cooperation in acquiring expensive, but highly useful literature for scientific community. The Indian Association of Special Libraries & Inforamtion Centres (IASLIC) took up the project for Calcutta city. The main objectives of the Project were:

- To document the high-cost journals available in the region to assist the scientists in getting access to these publications.
- To assess the extent of duplication of library acquisitions of serials, particularly in respect of high-cost materials (Rs. 9,000/- and above per annum).
- To develop logistics for sharing of important (especially secondary) periodicals.
- To study the cost aspects involved in such resource sharing, and to suggest possible rationalisation in multi-libary usage.

The data on the high-cost periodicals (costing > Rs. 9000) were collected from all S&T libraries in the city, tabulated, and analysed to study the extent of availability and duplication of the journal titles in three broad clusters of city libraries —north, central and south clusters. The periodicals have been taking a major share of the library's budget. There has been an annual rise of nearly 30-35% in the library's expenditure on periodicals, due to increase in subscription rates, as also the declining exchange value of rupee against foreign currencies. The main findings of the study are given below:

1. Nearly 346 costly journals (Rs. 9000/- and above per annum) are subscribed by 33 libraries in the city. Out of these, 212 costly journals are received in more than one library, i.e. a 61 percent duplication of titles within a region. These include 178 primary journals and 34 secondary periodicals. The total number of copies of these costly journals received in the libraries is 842.
2. It is seen that nearly 90% of the costly journals belong to Elsevier/North Holland (Netherlands), Springer Verlag (West Germany), Pergamon (England), and Gordon & Breach (USA) group of publishers. American Institute of Physics and American Chemical Society are the two society publishers of costly scientific journals.
3. In terms of financial outlay on high-cost journals and their dupiciation among the city libraries, the picture is most revealing; the 346 high cost journal titles together involve an annual expenditure of Rs. 66 lakhs; the cost on multiple copies of journals (additional 496 copies) received in the city libraries works out to another Rs. 1.50 crores, clearly indicating that the duplication is for the most expensive titles. This means the total annual expenditure on these costly titles involves a phenomenal Rs. 2.16 crores.
4. The extent of duplication among the periodicals in different subject groups will assist the libraries in working out cooperative arrangements for sharing their resources in their subject areas. Nearly half the costly titles are duplicated. Maximum duplication of titles prevails in Physics (81%) and Life Science (73%) followed by Chemistry (67%).

### Subject-wise Duplication of Periodicals

| Broad subject group | No. of costly titles available in Calcutta | Duplication of titles | Total No. of copies subscribed |
|---|---|---|---|
| Physics | 93 | 75 (81%) | 279 |
| Chemistry | 66 | 44 (67%) | 181 |
| Medical Science | 29 | 8 (28%) | 46 |
| Mathematics/ Computer Science | 34 | 16 (46%) | 60 |
| Life Science/ Biochemistry/Biophysics | 55 | 40 (73%) | 156 |
| Engineering/ Earth Science | 48 | 22 (46%) | 91 |
| Miscellaneous | 21 | 7 (33%) | 29 |
| Total | 346 | 212 (61%) | 842 |

### Suggestions for Improving Accessibility

I. The expenditure rising at a rate of 25-30% per annum must be a cause for serious concern and makes it imperative that a hard look is given to the avoidable duplication of journals that prevails even among the neighbouring libraries so as to conserve scarce resources; and if necessary to divert the funds so saved to acquiring a wider range of serial titles to serve the needs of the scientific community more comprehensively.

Each library spends between 5-10 lakh rupees on costly journals (about 40% of their journal budget), and it can save about 2 lakh rupees of its annual budget if duplication in costly journals is minimised.

II. It is evident from the survey that S&T libraries in the region have been functioning in splendid isolation quite oblivious of the economic compulsions and professional obligation of providing maximum accessibility to scholarly materials. The sooner the realisation that working as individual entities will no longer be economically viable in meeting users' demands dawns on these libraries, the better it will be for extending effective information service to city's scholars and researchers. There has to be a shift to a system that emphasizes distributed efforts and improved coordination. Resource sharing and arrangements for the developments of complementary collections among libraries will need to be increased. For this, the requirements are:

- Willingness to cooperate
- Detailed information of available resources
- Effective communication system
- National acquisition policy—there is need to ensure that at least a journal is available with accessible area
- Adquate bibliographic control, such as Union Catalogue, national and subject bibliographies, etc.
- Periodic meeting among the participating libraries to promote cooperation and resources sharing.

The alternative to this pragmatic approach would be to restrict the new acquisitions, and in some cases cancelling the subscriptions of existing journals. This would compromise on these libraries' objectives to maximize access to information for the growth of science and technology. If these libraries are unable to press for the required increase in their budget, we need as the National Enquiry into Scholarly Communication (USA) suggested, to move away from the concept of self containment to a model ... "In which the library will be a services centre, capable of linking users to national bibliographic files and distinct collections". Rapid developments in information technology, particularly the merger of computer and telecommunication technologies, provide the means of linking the users to information files, and emphasize the obvious strategy for the city libraries to adopt. A Network of city libraries will place at their command instant access to collective resources, and will facilitate cutting down avoidable duplication of costly journals. The multiple duplication of secondary periodicals could be replaced by acquiring/accessing machine readable database services, which would ensure multi-access, fast and random search for literature by the user groups. Setting up the Network of major S & T libaries in the city thus assumes a major significance and high priority.

### Conclusion

It is hoped that the Report widely distributed among the scientific community, will help the scientific workers in the city to locate and access costly journals; it will also provoke the management of S&T libraries in the region to rationalise the acquisition of high-cost journals by cutting down duplication of titles to the minimum and to promote greater cooperation among themselves through meaningful resource sharing. Such a cooperative approach has assumed geater relevance following the laudable effort of some city scientists and the DSIR under its NISSAT programme to launch the CALIBNET, with the prime objective of sharing costly resources and ensuring quick access to materials. It will be no exaggeration to claim that the CALIBNET Project can be self-financed, if only an earnest effort is made to economise on the duplication of high-cost journals in the city libraries.

**Appendix**—List of Journals for which Six or More Copies are Received

| *Title of Periodicals* | *Price (Rs.)* | *Title of Periodicals* | *Price (Rs.)* |
|---|---|---|---|
| Biochemical Journal | 14625/- | Nuclear Physics | 88815/- |
| Biological Abstracts | 62700/- | Section–A | |
| Chemical Abstracts | 177675/- | Section–B | |
| Journal of Chemical Society | 33256/- | Physical Review | 53885/- |
| Perkin Transaction | | Section–B | |
| Journal of Materials Science | 20833/- | Section–C | |
| Journal of Molecular Biology | 17500/- | Section–D | |
| Journal of Physical Chemistry | 11177/- | Physical Letters | 68265/- |
| Journal of Physics | 33787/- | Section– B | |
| Section–B | | Tetrahedron | 39950/- |
| Section–G | | Tetrahedron Letters | 43340/- |

---

## Creation and Use of Databases in Social Sciences:UNESCO-ICSSR Training Programme

Twenty-one participants including two from abroad (one each from Bangkok and Sri Lanka) attended a week-long training programme on Creation and Use of Machine Readable Databases in Social Sciences organised by Indian Council of Social Science Research with the co-sponsorship and support of UNESCO. The programme was inaugurated at JNU City Auditorium, New Delhi on 19 February 1990 by Prof. Moonis Raza, former Vice Chancellor, University of Delhi and Emeritus Professor JNU.

Prof (Ms) S. Bhan, Ag. Member Secretary, ICSSR welcomed the large audience at the inaugural session and stressed the importance of meeting the growing demand for trained professionals in library science and documentation. Ignoring the world developments in information science and technology was fraught with serious consequences for the country. The present course, she said, was one more step taken by ICSSR in collaboration with UNESCO to meet the manpower needs of developing countries. The encouraging response of participants was evidence of the need for organising such programmes more frequently.

Prof. P.B. Mangla (Delhi University) drove home the urgent need to expose professionals in the area to modern technique in data handling, storage and retrieval. He cited figures to show how fast recorded information was growing. The doubling rate was 4-5 years in science and technology and 8-9 years in social sciences. New storage devices like CD-ROM had dramatically facilitated the information storage problem and databases and software had made retrieval of the vast store of information accessible to those who had the knowhow, expertise and hardware at their disposal. It was, therefore, necessary to organize such refresher courses at regular intervals to keep abreast of current developments.

Prof. Moonis Raza's inaugural address raised several questions. Were the machines really capable of 'reading' in the sense in which humans did it ? He was referring to 'machine-readable' databases. Reading was essentially an intellectual activity beyond the reach of machines which could only catch the quantitative aspect, sometimes mistaken as a substitute or short-cut for 'thinking' or comprehension.

The chairman ICSSR, Prof Sukhamoy Chakravarty, while agreeing that though machines could not take care of the qualitative dimension of information, they were still necessary to sort, sift, rank, count and compare millions of data elements to enable planners, policy-makers and administrators to arrive at decisions promptly. Machine-readable databases were an essential part of this infrastructure.

Dr. K.G. Tyagi, Director NASSDOC, proposed a hearty vote of thanks to the VIPs and guests, at the function and participants for joining the programme.

# Local Area Network; Its Significance in Information System–SIS Convention, Goa

The Ninth Annual Convention and conference of the Society for Information Science was held at National Institute of Oceanography, Goa during January 18-20, 1990. The theme of the Conference was Local Area Network (LAN): Its Significance in Information System. About sixty information experts from R&D centres, enterprises in pulic and private sectors and libraries and information centres from all over India attended the conference which was inagaurated by Dr. B. Sheik Ali, Vice-Chancellor, Goa University.

In his inaugaral address, Dr. Ali stressed the importance of information and library services in enriching human knowledge. Information is the backbone for development and progress of a nation, Dr. Ali observed. He referred to the monumental work done by Prof. S.R. Ranganathan, doyen in the field of library science known the worldover.

Fellowship Awards: (Top) Smt. Kamala Ramachandran, Project Coordinator, Wealth of India (CSIR) New Delhi (Bottom) Shri S.S. Murthy, Director DESIDOC, Delhi.

Inaugural Address: Dr. B. Sheik Ali, Vice-Chancellor, Goa Jniversity

### Conference Theme

Shri. P.C. Bose, General Secretary of the Society, in his introductory remarks traced the development of the concept of Local Area Network (LAN) which is the culmination of interesting phases of development of information technology. From the mainframe computer system to the present day development of the microcomputer and its many phases of utility, the technology development surrounding Local Area Network over the last few years has been dramatic. Shri Bose mentioned that this conference would address a number of current issues in LAN design, performance, analysis, protocols, gateway development, distributed operating system, standards, network application and linkages at regional and national levels including case studies. There are several technical issues which are yet to be resolved before effective networks can be developed such as gateway design, protocols, conversion services, mapping and address resolution, and internetwork standards and regulations. He mentioned that the local computer network has great significance in the development of information system. Any database whether it was financial, management, S&T, bibliographical or non- bibiliographical, could be accessed at any location and time. This is a big step towards modernisation of an Information system where time factor is important in achieving the goal.

Shri. S. Nagarajan President of the Society in his welcome address reviewed the work done by the society since its founding in 1975.

### Fellowship Awards

On the recommendation of the Education and Awards Committee, two distinguished scientists were awarded the Fellowship of the Society in recognition of their outstanding contributions to the advancement of information science and technology. The are:

1) Shri S.S. Murthy, Director, Defence Scientific Information and Documentation Centre, Delhi.
2) Smt. Kamala Ramachandran, Project Coordinator, Wealth of India Division, Publications and Information Directorate, CSIR, New Delhi.

The Award carries a scroll of honour and a medal besides Life Membership of the Society. The two awards were presented by Dr. B. Sheik Ali, Vice-Chancellor, Goa University.

### Keynote Address

The keynote address was delivered by Shri Vijay Bhargava, Consultant, British Steels, Ahmedabad. He dwelt on the significance and meaning of keywords 'Local Area', 'Network' and 'Information System'. Shri Bhargava was of the view that the basic level of LAN should be the district level and only such information should form part of LAN for which there are many users in that particular area.

For networking it was essential that useful databases are created for administrative and economic information. Shri Bhargava referred to TIFAC (Technology Information Forecasting and Assessment Council), a concept promoted about a year ago. TIFAC it is stated, will not duplicate any exsting system but freely draw upon them. TIFAC is supposed to provide technology information mainly useful for forecasting and assessment needs and will cater to decision makers, planners, industrialists and R&D organisations. It may provide information through a national network, most likely CMC.

For achieving national objectives, the keynote speaker felt, the country will need databases of administrative information, economic information and technological information. Such databases can be networked when based on state level information, otherwise we shall again be faced with the problem of excessive information.

Concluding, Shri Bhargava spoke of specific information packages needed by policy makers, operation managers, academicians and researchers. Information centres must, therefore, be manned by people with a proper blend of knowledge in management, library science, telecommunications and computer sciences in order to be able to effectively answer the need of various categories of users. He expressed the hope and confidence that the Society for Information Science would be able to play a positive and more effective role in this area.

### Technical Sessions

There were five technical sessions: i) The nucleus for a LAN--how to buld it up, its requisite structures; ii) Role of LAN in integrated information system; iii) Standardization of formats for a LAN; iv) Linkages at regional and national levels; and v) Case studies. The sessions were chaired by Shri S.S. Murthy, Prof. T. Viswanathan , Shri G.T. Mirchandani, Shri P.C. Shah and Shri I.R. Kumar respectively. Papers were presented by Shri M. Natarajan (INSDOC), Shri Vidhu Sekar (CMC Ltd.), Smt.

Saraswati Bhattacharya (CMC Ltd.), Shri R.M. S., Bhargava and Shri Kunte (NIO), Shri P.C. Shah (ATIRA), Shri R.S. Singh (NCL), Shri K.Y. Srikanth (DRDO), Shri Srikant Sharma (CIMAP) and Shri K.P. Sadasivam (RRL).

**Recommendations**

The concluding session was chaired by Shri R.M.S. Bhargava, Head, Data & Information, NIO, Goa. Considering that information is an essential input for any type of activity, the conference made the following recommendations:

1. Data available in all information centres/libraries in the country should be converted into a machine readable form so as to facilitate networking.

2. Local Area Networks (LANs), installed at major centres having problems of hardware and software compatible with similar regions nearby may be looked into and expert guidance provided by government agencies like the Ministry of Science & Technology, Department of Electronics, U.G.C, INSDOC, etc. These may be in a better position to coordinate the activities by overcoming obstacles.

3. In order to use fast emerging new developments in information technology, there is a need for trained personnel at all levels. To meet this requirement as well as to better their qualifications, regular practical training and courses should be organised.

4. The Society for Information Science should hold workshops in collaboration with agencies like CMC Ltd., for hands on training in hardware and software.

5. In the Eighth Five Year Plan, government should provide sufficient funds to meet the challenging tasks in the area of information processing and dissemination.

**Vote of Thanks**

Proposing a vote of thanks, Shri. P.C. Bose, the General Secretary, expressed the Society's gratitude to Dr. B. Sheik Ali for inaugrating the conference and Shri Vijay Bhargava for his keynote address. The credit for the excellent organisation of the conference went to Shri R.M.S. Bhargava, and his colleagues in the organising committee. Dr. B.N. Desai, Director (NIO) kindly made available all possible facilities for holding the Convention. And the consistent financial support extended by CSIR for the convention was greatly appreciated as a source of encouragement to the Society in conducting its programmes and activities.

P.C. Bose

Ram D. Taneja

---

**Database: New Tool for Journalism**

News reporters and technoscribes have started looking at information differently: the news is'nt just fires, the news is information.

Reporters are now using computers to extend their reporting abilities. To get information. To recall information. To organize information. To look for trends and patterns. To compare, count, rank, sort. It's the same old journalism but with better tools, says journalism professor at the university of North Carolina. It's a way of keeping up with the information society.

On-line data bases, of which there are now more than 3,000 in the United States, are designed mainly for the retrieval of information by searchers who tap into a data bank through telephone lines attached to a computer terminal. In-house data bases are customer-built on the organization's own computers, which may range from mainframes to personal computers. Although in-house databases tend to be structured for analyzing data as opposed to retrieving specific bits of information, the line between the two kinds of databases in blurring. The basic function of the computer database, however it is structured, remains the same — to organize masses of information into meaningful patterns.

The news media in the United States have steadily increased their use of on-line data bases since discovering them in the late 1970s. According to a 1986 survey, the number of newspapers doing on-line searching had quadrupled over the previous four years; in 1986, database use was reported by more than half of the 155 newspaper respondents.

The message: We must use the powers of computers to tap into the myriads of databases that are out there and when they are'nt there, build them.—*Span*, February 1990, 40.

# Recent Publications

*Publishers are invited to send to the Editor for review and noticing their new publications on information industry and technology, librarianship, documentation, archival science, micrographjy and reprography, information systems and services, science communication, printing and publishing (including electronic publishing, computer hardware and software, etc.)*

***Indian Patents in Biotechnology Published During the period 1972-88. Dept of Biotechnology. Ministry of Science and Technology, New Delhi, 1989.Pages x+224.***

The publication contains information about the Indian patenting activity in the field of biotechnology during the period 1972–1988. The information comprising 951 Indian patents in the field of biotechnology has been retrieved from the Indian Patents Database (INPAT DATABASE) containing about 33000 published Patents under the Patents Act, 1970. This database has been developed by the Patents Unit, Technology Utilisation Division of the Council of Scientific & Industrial Research with the financial support given by the Department of Biotechnology.

An analysis of the data given in this publication shows that during the period 1972-88, nearly three-fourth (75%) of the biotechnology patents published in India originated from foreign countries mainly from US and European firms and research institutes. Of the total biotechnology patents published, the Council of Scientific and Industrial Research (CSIR) has emerged as the major single contributor accounting for about 9.5% patents.

The patenting activity in the area of biotechnology in the country has mainly been concentrated in the pharmaceutical sector which include processes for the preparation of antibiotics, vitamins, enzymes, antibodies and vaccines. In the area of chemicals, the inventive activity relates mainly to the production of alcohols and polysaccharides. Inventions relating to agricultural sector cover biocides, plant growth regulators, veterinary vaccines, plant cell and tissue culture while food industry covers dairy and fish product, baker's yeast, food additives, starch products glucose and fructose syrusps,etc. As regards the service industry, the inventions pertain mainly to waste water and effluent treatment. In the energy sector. the focus in primarily on the biogas production. It is important to note that the patenting activity in the area of biotechnology has increased significantly during the recent years and has shifted its focus from the traditional applications to newer areas employing genetic manipulation techniques.

The information contained in the publication would be useful not only to the scientists doing research in the field of biotechnology but also to those concerned with planning and decision making in regard to the direction of research work in India.

The Patents Unit is making the database uptodate and it is understood the database will soon be integrated with BTIS Network (Biotechnology Information System) making thereby its availability online.

The Publication is also available on floppy diskettes. For details write to Scientist-in-charge (Patents), Patents Unit, CSIR, INSDOC Building, 14 Satsang Vihar Marg, New Delhi 110067.

***International Cooperative Information Systems, Networks and Programmes (Vol. 6 of Handbook of Libraries, Archives and Information Centres in India. Cord. Ed. B.M. Gupta. Pages 304. 1989. Information Resources Centre, New Delhi. Price Rs. 300.***

In the information based society of today rapid developments are taking place to plan and knit together the country's information grid. In this context, the above volume becomes all the more relevant as a reference source to help India forge ahead to keep in step with the developments taking place the world over.

The 27 chapters contributed by eminent authors and professionals in the field cover a wide spectrum of information systems and services: INIS, AGRIS, DEVSIS, ISBN, ISONET, TIPS, IRES,to name a few Information about these is widely scattered, By bringing it under one cover, the authors/publishers have done a great service to the development, promotion and interaction of the national information natwork with international channels.

Special mention must be made of the very comprehensive and useful chapter contributed by Prof. C.N.R. Rao which presents a consolidated listing of some important organizations engaged in data generation, collection, evaluation and dissemination. This would be found extremely useful by many seekers of S&T information.

The Volume under review is a must for all infomation contres, libraries to serve as a comprehensive source book—RDT.

***FID Occasional Paper Series***

FID has recently established an *Occasional Paper Series* in which reports will appear which focus on important and current issues in documentation, information management and information science.

Two reports in this series were recently published as the result of studies undertaken for the General Information Programme.

*From informal gatekeeper to information counsellor: Emergence of a new professional role by Marta Dosa, Mona Farid and Pal Vasarhelyi. The Hague: FID, 1989, 55 pp. (FID Occasional Paper Series; 1) (FID 677)*

The concept of "gatekeeper" appeared in the literature more than 2 decades ago. This report describes some of the concepts and trends in the application of the "information gatekeeper" phenomenon. Some of the issues looked at in the report are: examples of studies into the subject, the transition of the gatekeeper's role in the organization, the general functions of infomation counselling, issues in information policies, and the implications for education and training. The report also has extensive references.

*National information policies: a review of the situation in 17 industrialised countries, with particular reference to scientific and technical information by Michael W. Hill. The Hague: FID, 1989. 107 pp. (FID Occasional Paper Series; 2) (FID 678).*

This survey aims to look at both the policies and practices which lie behind their formulation, which assist their dissemination and provide for their implementation as seen during the second half of 1988. When possible the study has been restricted to scientific and technical information in 17 industrialised countries.

Policies and practices in these countries are presented in a way which,as far as practicable,makes comparison possible. The countries are Australia, Austria, Canada, Czechoslovakia, Denmark, Finland, France, Federal Republic of Germany, Hungary, Japan, Netherlands, Norway, Poland, Spain, United Kingdom, United States of America and the Union of Soviet Socialist Republics. Because certain international regional institutions are active in the field in a way that influences national policies, attention is paid to these too.

The document contains information, normally accessible to the public but not easy to locate, on the evolution of these information policies in countries with different social, economic and political structures.

Both publications are available at the price of $ 40 or 80 Dutch Guilders from FID Sales Department, P.O.Box 90402, 2509 LK The Hague, Netherlands.

***Bulletin of the National Natural Resources Management System (NNRMS). NNRMS Secretariat, ISRO Headquarters, Bangalore. 1989. pp vi + 60.***

The Bulletin presents an interesting account of the not so well-known activities of the Satellite Control Centre for IRS-1A which completed one year of successful in-orbit operation in March last year. During this period, the camera systems on-board the satellite have covered the country 16 times thus generating a hundred thousand imageries.

The typical application areas where IRS-1A imageries are used include mapping of forestry and wasteland, crop inventory, ground water targetting, integrated drought management and regional geological mapping.

The yearlong operations of IRS-1A mission has given enough confidence to both working level operations system and top management that the operational remote sensing missions are no longer dreams but realities in the Indian context.

The attractive, well produced Bulletin should help disseminate information about the activities of SCC and thereby harness to a greater degree the potentials which have come to light through IRS-1A for more complex missions in the years to come. General terms of supply of data products by NRSA

Data Centre are detailed in the Bulletin. For details please write to Dy Director, Earth Observation System, ISRO HQ, Antariksh Bhavan, Bangalore.

***Directory of Agents for Imported Machine Tools and Allied Equipment. Central Machine Tool Institute, Bangalore. 1989. Pages 150, Price Rs. 250.***

A NICMAP publication (this is a revised edition), it is meant to serve as a ready reference guide for identifying Indian agents for foreign manufacturers of machine tools and allied products. The directory provides an alphabetical list of products, agents and their principals. Nearly 1550 products have been listed covering about 260 Indian agents and 939 principals.

***Machine Tools and Production Engineering Thesaurus, Central Machine Tool Institute, Bangalore, 1989, Pages 84, Price Rs. 150 (including postage), US $ 30 (overseas surface mail).***

This is an updated version of the thesaurus which NICMAP had published in 1984. Keywords pertaining to emerging technologies have been added. Contents include metal cutting and forming, machine tools and tooling, metal finishing, metrology, tribology, foundry, welding, plastics and allied fields.

This thesaurus serves as a ready reference tool in the field of machine tools and production engineering for industries, researchers, practicing engineers, technical institutions, information centres, libraries, students of engineeting and others for indexing or arranging their collected information as well as a in formulating technical enquiries to various data banks.

***ISO/IEC-KWIC Index - 4th ed. - Geneva: ISO/ IEC, 1989. –714 pp. ISBN 92-67-10 152-8***

With the KWIC Index prepared in the format of key-word -in context, all international standards published on a given subject can be identified instantly. It includes some 12 000 documents from the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), and 27 other international organizations.

A key-word system makes the task of looking up a standard extremely simple.In English with instructions for use in French.

*Conference proceedings on new information technology for library and information professionals and educational media specialists*

This 480-page conference proceedings contains 64 original contributions covering such topics as library automation, online information retrieval, networks, database development, CD-ROMs and multimedia systems, hypermedia and information technology. These papers give an historical and current overview of activities and applications in information in South-East Asia and the Pacific Region. A subject and author index are included. The proceedings of the 2nd Pacific Conference on New Information Technology, 29-31 May 1989, Singapore, were edited by Ching-chih Chen and David Raitt. Contact FID, P.O. Box 90402, 2509 LK The Hague, Netherlands (International Federation for information and Documentation (FID) Publication No. 676.

*Management of Government Information Systems: Elements of Strategies and Policies UNDTCD, New york, N.Y. 10017.*

Government information systems have become an important development challenge for public administration managers. Helping them to meet this challenge is a new UN-DTCD publication, Management of Government Information Systems: Elements of Strategies and Policies

Prepared in module format, this 200-page publication is a tool designed for immediate use by public sector decision-makers involved in setting up or managing information systems. It provides concise and detailed guidelines on key policy and practical issues in the information systems field.

Advice is given on the assessment of information needs in order to reduce the costs of information systems development. Specific guidelines are provided on procurement of equipment, software and services.

Decision-makers will find out how to organize the training of computer professionals as well as of managerial users. They will be helped to define appropriate technical methodological data standards to improve compatibility and consistency of information systems in public administration.

Finally, this new book provides guidance on the creation of an appropriate legal framework to facilitate the development of information technology in government and society and, at the same time, to protect society from the misuse of informatics and information.

# Nissat-Insdoc Courses on Computer Application to Library and Information Activities

In response to the demand of library and information professionals, INSDOC is going to organize the following short term courses during financial year 1990-1991. Seats in these courses will be provided on first–come–first–served basis. Library and information professionals interested to participate in these training courses are requested to contact Shri B.K. Sen, Deputy Head, Education & Training Division, INSDOC, New Delhi 110067.

| Sl. No. | Course | Commencing | Duration |
|---|---|---|---|
| 1. | Computer Application to library & information activities (for freshers) (MS Dos, CDS/ISIS, d.Base III Plus, Wordstar, Lotus 1-2-3) | 2 April 1990 | 4 weeks |
| 2. | CDS/ISIS (Ver 2.3) & PASCAL for those having knowlege of CDS/ISIS ver.1.0) | 9 July, 1990 | 4weeks |
| 3. | Computer application to library & information activities (for freshers) (MSDOS, CDS/ISIS, d.Base III | 20 Aug. 1990 | 4weeks |
| 4. | Bibliometrics | 22 Oct. 1990 | 1 week |
| 5. | DBMS & dBase III Plus | 19 Nov. 1990 | 4 weeks |
| 6. | CDS/ISIS (Ver 2.3) & Pascal (for those having knowledge of CDS/ISIS (Ver. 1.0) | 7 Jan. 1991 | 4weeks |
| 7. | Information Technology (online access, electronic mail, CD ROM, electronic imaging, Videotex, Teletex, etc.) | 10 Feb. 1991 | 2 weeks |
| 8. | DBMS & d.Base III Plus | 4 March, 1991 | 4 Weeks |

**Course Fees:**

| | |
|---|---|
| 4 week course | (Rs. 2,500/- (with accomodation)<br>(Rs. 2,000/- (without accommodation) |
| 2 week course | (Rs. 1,250/- (with accommodation)<br>(Rs. 1,000/- (without accommodation)<br>(Rs. $ 650/- (with accommodation) (for foreigners) |
| 1 week course | (Rs. 650/- (with accommodation)<br>(Rs. 500/- (without accommodation<br>($ 350/- (with accommodation) ( for foreigners) |

NB:
- Maximum No. of seats in each course = 15
- Seats will be filled up on first-come-first served basis.

# Calender of Meetings, Fairs, Exhibitions, 1990*

| S. No. | Date | Title/ Location | Contact Address |
|---|---|---|---|
| 1. | March 6-9 | Melbourne, Australia<br>COMMUNICATIONS<br>International Exhibition for Electronic Communications and Informations Technology | Australian Exhibition Services Pty. Ltd.<br>Illoura Plaza, 424<br>St. Kilda Road<br>Melbourne, Victoria 3004<br>Australia |
| 2. | March 21-23 | Rome, Italy<br>Modelling the Innovation: Communications Automation and Information Systems–IFIP/IFAC International Conference | Conference Secretariat<br>Fondazione Ugo Bordoni<br>Via B. Castiglione 59<br>I-00142 Roma<br>Italy |
| 3. | March 21-28 | Hanover, Germany Fed. Rep.<br>Hanover Fair CeBIT<br>World Center for Office Information and Telecommunications Technology. | Deutsche Messe AG Hannover<br>Messegelande<br>D-3000 Hannover 82<br>Federal Republic of Germany |
| 4. | March 26-29 | Lillehammer, Norway<br>INDC-90<br>Third International Conference on Information Network and Data Communication | INDC-90 Secretariat<br>C/o Ellen Bohler<br>Den Norske Dataforening<br>P.O. Box 6714 -Rodelokka<br>N-0503 Oslo 5<br>Norway |
| 5. | April | Caracas, Venezuela<br>VENEZUELA COM EXPO<br>International Computer and Communication Exhibition | Fapezal Communication S.A.<br>Paseo de la Reforma 300<br>Col. Juarez<br>06600 México, D.F.<br>México |
| 6. | May 7-9 | The Hague, The Netherlands<br>21st European Congress on Computer Applications in the Chemical Industry | Dr. J.M. Van Der Kamp<br>KIVI<br>23 Princessegracht<br>NL-2500 GK The Hague<br>The Netherlands |
| 7. | May 9-11 | Brussels, Belgium<br>EFLC European Conference on Library Automation and Networking | European Foundation for Library Cooperation<br>Postbus 237<br>B-1040 Brussels<br>Belgium |

---

*Source: UNIDO, Vienna.

| S. No | Date | Title/ Location | Contact Address |
|---|---|---|---|
| 8. | May 9-11 | Utrecht, The Netherlands<br>EUROPE SOFTWARE<br>International Computer<br>Software Trade Fair | Koninklijke Nederlandse<br>Jaarbeurs<br>Postbus 8500<br>NL-3503 RM Utrecht<br>Netherlands |
| 9. | June 19-21 | Birmingham, UK<br>ELECTRONIC PUBLISHING '90<br>Exhibition and Conference | Blenheim Online Ltd.<br>Blenheim House<br>Ash Hill Drive<br>Pinner, Middlesex HA5 2AE<br>United Kingdom |
| 10. | June 19-21 | Birmingham, UK<br>NETWORKS '90<br>Exhibition and Conference | Blenheim Online Ltd.<br>Blenheim House<br>Ash Hill Drive<br>Pinner, Middlesex HA5 2AE<br>United Kingdom. |
| 11. | June 22-25 | Hong Kong<br>PACK-PRINT ASIA<br>International Exhibition for<br>Packaging and Printing<br>Machines and Materials | Business and Industrial<br>Trade Fairs Ltd.<br>28/F, Harbour Centre<br>25, Harbour Road, Wanchai<br>Hong Kong |
| 12. | June 26-30 | Kuala Lumpur, Malaysia<br>PRINTING AND PACKAGING<br>International Exhibition | Malaysian Exhibition<br>Services Sdn. Bhd.<br>2/F, Wisma Socfin<br>Jalan Semantan<br>Damansara Heights<br>50490 Kuala Lumpur<br>Malaysia |
| 13. | July 9-13 | Sydney, Australia<br>WCCE/90—Fifth World<br>Conference on Computer<br>in Education | WCCE/90<br>P.O. Box 319<br>Darlinghurst, NSW 2010,<br>Australia |
| 14. | Sept 3-8 | Havana, Cuba<br>45th FID Conference & Congress:<br>Information a Resource for<br>Development | Comite Organizador FID '90<br>IDICT<br>Apartado Postal 2019<br>10200 La Habana<br>Cuba |
| 15. | Oct 15-19 | Zagreb, Yugoslavia<br>INTERBIRO-INFORMATIK<br>International Exhibition of<br>Information Handling Equipment,<br>Communication Systems, Data<br>Processing & Office Equipment | Zagrebacki Velesajam<br>Avenija Borisa Kidrica 2<br>YU-41021 Zagreb<br>Yugoslavia |

| S. No | Date | Title/ Location | Contact Address |
|---|---|---|---|
| 16. | Oct 22-26 | Tokyo, Japan<br>International Conference on<br>Information Technology | Secretariat<br>Simul International Inc.<br>1-8-10 Akasaka, Minato-ku<br>Tokyo 107<br>Japan |
| 17. | Nov. 8-11 | Beijing, China<br>EXPO COMM CHINA<br>International Exhibition for<br>Telecommuncaitons & Computers | E. J. Krause & Associates<br>3 Bethesda Metro Center<br>Suite 510<br>Bethesda, Maryland 20814<br>USA |
| 18. | Nov 26-29 | San Diego, California, USA<br>IEEE Global Telecommuncations<br>Conference | Institute of Electrical and<br>Electronics Engineers<br>Conference Coordination<br>345 East 47th Street<br>New York, N.Y. 10017<br>USA |
| 19. | Dec. 4-7 | Stockholm, Sweden<br>MEDICINE<br>International Exhibition of<br>Medical Sciences | Stockholmsmassan AB<br>Mässvägen 1, Alvsjö<br>S-12580 Stockholm<br>Sweden |
| 20. | Dec. 6-9 | Hong Kong<br>COMMTEL ASIA<br>International Exhibition<br>for Telecommunication | Business & Industrial Trade<br>Fairs Ltd.<br>28/F, Harbour Centre<br>25, Harbour Road<br>Wanchai<br>Hong Kong |
| 21. | Dec 12-16 | Singapore<br>SINGAPORE INFORMATICS<br>International Exhibition | Technofairs Corp. Pte. Ltd.<br>111 North Bridge Road<br>Ste. 1601, Peninsula Plaza<br>Singapore 0617 |

## FORM 1V

(See Rule 8)

| | |
|---|---|
| Place of publication | New Delhi |
| Periodicity of its publication | Quarterly |
| Printer's Name | Dr. A Lahiri |
| Whether Citizen of India? | Yes |
| Address | Technology Bhawan, New Mehrauli Road New Delhi- 110016 |
| Publisher's Name | Dr. A. Lahiri, Department of Scientific and Industrial Research, Govt. of India |
| Whether Citizen of India? | Yes |
| Address | As above in (3) |
| Editor's Name | Ram D. Taneja |
| Whether Citizen of India? | Yes |
| Address | Society for Information Science, PID Building Hillside Road, New Delhi -110012 |
| Names and addresses of the individuals who own the newspaper and partners or share holders holding more than one per cet of the total capital | Dr. A. Lahiri<br>Department of Scientific and Industrial<br>Research, Technology Bhawan,<br>New Mehrauli Road, New Delhi - 110016 |

I, Dr. A. Lahiri hereby declare that the particulars given above are true to the best of my knowledge and belief.

March 1990

Sd/- A.Lahiri

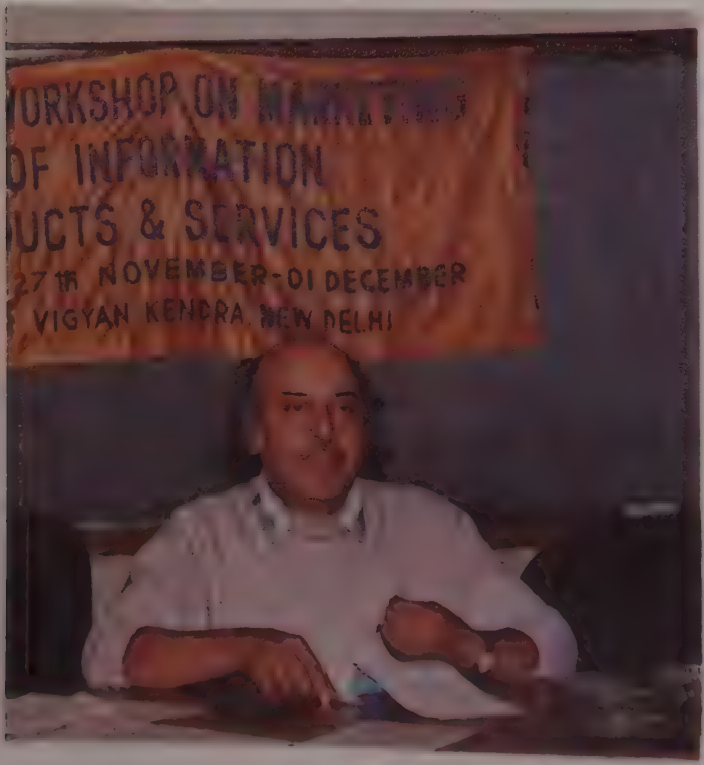
Signautre of Publisher

# NEWS & EVENTS

### Marketing of Information Products & Services —

### UNESCO workshop

The workshop was jointly organised by Unesco (Bangkok), NISSAT and AGLIS (Association of Govt. Librarians & Information Specialists), during 27 Nov-01 Dec 1989 at CSIR Science Centre, New Delhi. There were 19 participants from all over India, most of them being heads of the information institutions. The objective of the workshop was to familiarize the librarians, documentalists and archivists with the marketing concepts and enable them to apply these in the day-to-day information activities of providing services and products to the users. Dr. A. Lahiri gave a brief introduction in the subject, followed by Shri V.K. Rangra, the Coordinator, who explained the scope of the workshop. The curriculum comprised lectures, case studies, syndicate exercises and video films on market management. the topics covered were: basic marketing conepts, planning & strategies for marketing, information seeking behaviour, marketing research, audience research, marketing mix, education on marketing of information products and services, marketing communication, concept testing for on-line information services, literature survey. Case studies were also presented by some of the participants on their respective information services, namely: Texicon (textile), NICMAP (machine tools), NIC-ICMR (medicine), NCSTC Newsletter. The faculty was mainly drawn from the marketing professionals and comprised S/Shri N.K. Gopalakrishnan (Institute of Public Enterprises, Hyderabad), Raghu Roy (Business India, Bombay), A Ganguly (Ogilvy & Mather, Delhi), S.S. Murthy, Director, DESIDOC, Dr Sunil Misra, Director, Audience Research, All India Radio, Dr. A. Lahiri, Director, NISSAT and others. A video film on "New Information Technologies and Services in a Modern Information Centre: DESIDOC" was shown followed by further explanation by Sh. V.K. Rangra, the concept and script writer of the film. The feedback provided by the participants rated the workshop as very useful.



Dr. A. Lahiri (NISSAT) introduces the workshop theme.

OF INFORMATION
RODUCTS & SERVICES
CSIR VIGYAN KE

Shri S.S. Murthy, Director DESIDOC speaks on some aspects of marketing of information products and services.

### New Delhi has INFOTEL Online Service Facility

An online service facility under the name of INFOTEL has become operational in New Delhi. Set up on 16 January 1990 by Informatics (India) Pvt. Ltd. in collaboration with Videsh Sanchar Nigam, the Centre provides online facility to information users in Delhi and its neighborhood, signifying the use of telcommunication for information searching through global computer communication networks. ASimilar centre set at Bombay in October 1989 received enthusiastic response from industry and eduction sectors of the metropolis.

The inter national Gateway Packet Switch Service (GPSS) was introduced with a demonstration cum-seminar held on 16 January 1990 at VSNL, New Delhi. It was attended by across section of information professionals and information users who witnessed interesting interaction with online Systems like DIALOG and EASYNET. The queries dealt with materials, products, markets and technology, and process knowhow in patents, standards and specifictions, etc. INFOTEL has access to 12 major online hosts who together make available more than 1000 databases.

An effective presentation on INFOTEL facilities and services was made by Shri N.V. Sathyanarayana, Managing Director Informatics (India) Bangalore. The Chief General Manager VSNL introduced the GPSS.

INFOTEL cost of services varies from Rs. 500 to Rs. 5000, depending upon the requirements and the value of information the system offers. Membership is registered for a minimum period of one year on payment of a fee of Rs. 5000. Requests may be addressed to INFOTEL Online Service Centre, C/o Videsh Sanchar Nigam Ltd., Bangla Sahib Road, New Delhi-110001.

### eractive Computers Come of Age

What if a computer could actually comprehend the tasks it rforms, instead of simply responding to programmed commands? d what if it could talk–not in a stilted video-game voice, but in tural conversational tones? Then it would truly be a system of two-- y communication. The keyboard would then be redundant as a tool inputting information.

The first steps toward realizing this interactive system were tiated by American researchers at Duke University in North rolina in 1985. Led by Alan W. Biermann, associate professor of mputer science, a group of Duke scientists were the first to develop oice- and touch-activated computer system. With this, the user n talk to the computer, or touch the screen to give a command. e Voice Interactive System (VIPS) is the product of more than ven years' work by Biermann and his associates.

Since then, several other "intelligent" systems have been veloped that combine all three components--voice, touch and text-- produce a fast and efficient processing system

Casey Gilbert, an associate of Biermann, explained how e system works: "It is a voice and touch input system that can anipulate objects displayed on the screen. The screen in sensitive touch--if you put your finger on it, you generate a coordinate that e computer recognizes. We manipulate test specifically with VIPS, though much of the system is general enough that we envision oing other kinds of tasks, like keeping a calendar of appointments."

VIPS is a task-oriented system, which means that it is signed specifically to work with a person in performing a task, such s word processing or information storage. Using VIPS, a worker on n assembly line could simply call out past numbers or models stead of having to use a keyboard to enter the information. The ystem would then store the information, and the worker could have is or her hands free for other tasks.

The way VIPS works is deceptively simple. The system as a vocabulary of about 80 words, and as long as the user groups ese in a specific order, VIPS will carry out the appropriate ommand. For instance, the system can insert or delete groups of ords or entire paragrphs; it can center, capitalize, and move words, entences, or paragraphs within the document; it can colour parts of e documents.

Every command, entered through a microphone-equipped andset, begins with the word "Now," followed by an imperative verb nd several noun groups, and ends with the word "Over".

VIPS quickly processes commands such as: "Now, delete he second sentence in the first paragraph, over." In issuing the ommands, the user touches the relevant area on the screen as he or he says "the second sentence in the first paragraph."

To respond to each command, VIPS uses a two-stage rocess: voice recognition and language understanding. In the first tage, a commercially-purchased "recognizer" matches samples of anguage already stored in its memory with words that are spoken. Then, the recognizer is hooked to a host computer that actually ranslates the sentences into a form the computer can identify.

"The host computer's job is to make sense out of an English sentence, and if you tell it to do something, its job is to do it," Biermann says. "So the host computer has really a microscopic grammar for English. Then, it has special routines that represent the meaning of the individual words, so if you say the word 'paragraph,' the system will be able to find the paragraph." --Science Update, Dec. 1989.

### Professor S. Bhagvantam--DSJ Commemoration Issue

The Defence Science Journal published by Defence Scientific Documentation and Information Centre came out with a special issue (Vol. 40, No. 1, January 1990) dedicated to the memory of Prof. S. Bhagvantam, former Scientific Advisor to Defence Minister and Director, Indian Institute of Science, Bangalore. The Commemoration issue was released by Dr. V.S. Arunachalam, Scientific Advisor to Raksha Mantri and Director General, Research & Development, Ministry of Defence on 6 Feb. 1990 at a simple and dignified function. The date marked the first death anniversary of Prof. Bhagwantam

Glowing tributes were paid at the function to the personal qualities and outstanding work of Prof. Bhagvantam as a scientis. Dr. M. Krishnamurthi, former Chief Controller DRDO reminisced over his long years of close association with Dr. Bhagvantam as an old student and collaborator. As Guest Editor for the Special issue of DSJ, he has been responsible for its excellent collection of papers by eminent scientists extolling the work of the great scientist and science administrator.

The DESIDOC Director, Shri S.S. Murthy and his colleagues deserve to be congratulated for bringing out this excellent commemoration volume to honour the memory of one of India's greatest scientists.

### IASLIC Study Circle Meeting, Hyderabad

A meeting was organised under the joint auspices of IASLIC Study Circle, Librarians Study Circle, Osmania University and ICSSR-Southern Regional Centre at Osmania University Library on 2 December 1989.

Dr. Mohammed Taher, Dy. Librarian, American Studies Research Centre, Hyderabad, who has recently obtained his Doctorate in Bibliometric Study of Islamic Literature from Cochin University, presented a paper on "Area Studies Librarianship: Trends in Quantitative Studies" and led the discussion. Prof. A.A.N. Raju, Head, Dept. of Library and Information Science, Osmania University presided over the function.

While presenting his paper Dr. Taher explained that the meaning of Area Studies Librarianship he has taken for his research is as an inter and multi disciplinary area and does not refer to geographical areas. He also used the synonymous terms as comparative, international and world librarianship for the topic. Illustrating the concept further he cited subjects like women studies, black studies, Islamic studies, etc. Explaining the important role that is being played by quantitative methods in library research, Dr. Taher mentioned that his study on Islamic literature is based on in–depth analysis of the data appeared in 'Index Islamicus'. His analysis of the literature revealed that there is explosion of literature both in terms of subject that contribute (Subject scatter) and in the countries that produce the literature (geographical scatter). The study arrived at a list of core journals of high significance which is very useful for the scholars, teachers and information personnel who are connected with Islamic studies.

An interesting discussin followed the presentation.

### Medical Librarianship: International Congress Meets in New Delhi 24-28 Sept. 1990

The Sixth International Congress on Medical Librarianship (6 ICML) and Pre-Congress Seminar will be held in New Delhi during 24-28 Sept. 1990. The Congress is sponsored by Medical Library Association of India. World Health Organization (WHO), National Medical Library (NML), Indian Council of Medical Research (ICMR) and the National Information System for Science & Technology (NISSAT) are Co-sponsors.

A novel feature of this Congress is a "Pre-Congress Seminar on Health Sciences Information: Impact of Technology Developments on its Production, Analysis, Distribution & Consumption'. This Seminar will provide an open forum for discussion. Invited papers from representative groups will be presented with a view to evolving consensus on key issues involved and possible solutions with a futuristic outlook.

Seminar Theme : Health Sciences Information; Impact of Technology Developments on its Production, Analysis, Distribution and Consumption.

Sub-Themes : i) Role for Publishers/Distributers

ii) Role for Health Sciences Librarians

iii) Role for Computer/Information Technology Personnel

iv) Role for Consumers/Users

For further information, please contact Shri S.K. Anand, Secretary-General National Organzing Committee 6ICML C/o World Health Organization, I.P. Estate, Ring Road, New Dehi-110002.

**Computerised Services of JNU Library**

The Jawaharlal Nehru University library set its pace towards library automation in January 1987 when it acquird a Wipro PC-AT, an IBM compatible, with 1 MB RAM, 40 MB Winchester disk drive and a 132 column printer for the DEVINSA Project, financed by IDRC. It also acquired the CDS/ISIS software from the Dept. of Science and Technology. The library also trained a few staff members under a computer expert, Mr. A.L.M. Abdul Gafoor of Marga Institute, Colombo. These expenses were also met by the IDRC. The training was for INMAGIC and CDS/ISIS, two separate library application/text based softwares.

DEVINSA Project--The DEVINSA (Development Information Network for South Asia) project formed under the Committee on Studies for Cooperation and Development in South Asia, Primarily aims at providing information particularly relating to non-conventional documents, like project reports, theses, working papers, official documents, etc. Six countries, namely, India, Sri Lanka, Bangladesh, Nepal, Pakistan and Maldives are participating in the project. "The JNU Library acts as Indian Focal Point, and contributes entries on Indian sources. About 3500 abstracts have been sent to the coordinating centre at Marga Institute, Colombo. The entries using the INMAGIC software are sent on floppy diskettes.

The products of this project are, the DEVINSA Monthly Bibliography and the DEVINSA Abstracts published from July 1987. The data for the year 1987 are available on diskettes.

India & World Affairs Project--This project an offshoot of the annual bibliography "India & World Affairs" published regularly in the Journal "International Studies" is taken up to present 40 years' data on Indian Foreign Policy as a mark of respect to Late Jawaharlal Nehru in his Birth Centenary Year.

The data from 1947 to 1977 has been fed into the computer. The output for two volumes covering 1947-57 and 1958-67 have already bee taken for publication. The number of entries in the database now exceed 35,000 and include the materials of Journals articles, editorials, official statements and Lok Sabha & Rajya Sabha debates apart from other sources.

HP 3000 Computer–Mean-while the University decided on full scale Library automation by acquiring an exclusive computer system and suitable software for the Library. After several deliberations the Library Automation Committee decided on the purchase of HP Micro 3000XE Computer System, with 8 MB RAM, 652 MB disk space, 4 terminals, a console, and printers, and the MINISIS software from IDRC.

The Computer was eventually purcahsed and was installed in June 89. Training was imparted to the professional staff on the MINISIS Software and the operating system of the Computer in June 89.

Catalogue--During the following quarter different sample data bases were created and tested. The library opted for a changover to the AACR II and to follow CCF format for data input. The databases were modified accordingly. From November 1989 the input of cataloguing data started and a moderate database of 1400 records of Social Science, Science and Humanities books has been created. Output of different indexes & formats were taken. In addition, a database of retrospective records amounting to 1300 entries of Spanish & German books was also created.

From the catalogue-database a monthly list of additions is being generated and distributed to users for information on new additions to library.

From the Computer database the catalogue cards in the conventional 5"x3" size are being generated and multiple copies of cards are obtained by duplication. This was necessary since the users at present have no access to computer and are using the card catalogue only.

Documentation--Records of periodical articles (3600) from social sciences Journals were already entered in the documentation database. The proposed increase in the size of database is around 800 records per month. The database is capable of meeting the requirements of social scientists and other users of social sciences information in terms of search by author, subject (keywords, period, geographical area), title, Journal title and word searches. The feed back from users was encouraging. The effort to introduce SDI Service to individual faculty members has been started by collecting their profiles. Over a period of time, thesis database is expected to be a valuable source for users of social science information.

Suchika--The SUCHIKA, a monthly list of Social Science articles is currently published by computer output of selected articles from the Documentation database. In addition partial lists of interest to various centres of studies was also taken and distributed on a periodical basis.

Newspaper Clippings--The databae on newspaper clippings has been designed and around 200 items of news pertaining to South Asia have been input into the database. The searches allowed by this database include the Area (Country & State), subjects and author if any and the newspaper title. The scope will be extended to other areas in the near future.

Journal Holdings & Serials Control--A database of Journal holdings of the JNU Library has been designed. The data input will be started after getting some clarifications from INSDOC, for inputing the entries in the format required for union catalogues. The CHECKIN Processor of the MINISIS has been tested for serials control with some sample inputs & databases. The regular serial control will be started for Journals subscribed for 1990.

Standrads--In view of standardization required for networking purposes, the library has adapted some standards in the hope that the me will be used by other participants in the Networks. As a first ep it changed its system of cataloguing to AACR II and the mputer input conforming to CCF. It is using the Library of Congress bject headings and standard thesauri like UNBIS, SPINES and acrothesaurus.

The Library has ambitious plans towards adopting the latest ormation technology. The catalogue is expected to be online within year or so with terminals provided in the user areas and work aces. Some important databases available on magnetic media are oposed to be subscribed. The Library is also taking active interest participating in the networking plans at different levels like DELNET d INFLIBNET.

### ESIDOC Online Catalogue Project

DESIDOC has 'taken up Online Catalogue project which imarily involves conversion of card catalogue into machine readable rm. This database includes books, reports, patents, standards, ecifications, series publications etc. At present the entire collection defence science library is as under: Library: 47,000; Reports: ,000.

In first phase it was decided to consider the document llection from 1981 onwards. The main activities under this project e:

(a) Software refinements
(b) Data capturing
(c) Data entry
(d) Proof reading
(e) Data editing
(f) Database creation
(g) Testing

The project was completed in 1743 mandays and is perational since November 1989.

oftware refinements:--DESIDOC initially developed the sotware for nline Catalogue for use on PC and PC compatibles (single user ystem). However, since this project was to be implemented on multi-ser environment, the software was refined for multi-user nvironment. (i.e. Xenix/Unix Ver 2.3). The software creates and pdates invert files for searching keys, namely, author's name, escriptors/keywords, class no., report/accession/patent no., a lot of finements were therefore made in the software for handling such a rge database.

ata capturing:--This process involved following operations:

- Filing in the data input sheets in CCF format
- Editing of fields as per AACR II rules
- Checking of codes
- Selection and standardization of keywords using TEST thesaurus.

This activity involved approx. 1433 mandays for 11,550 ocuments. The students of B.Lib.Sc from Delhi University were sed to carry out the routine jobs while the technical and more tellectual jobs were done by DESIDOC staff.

ata entry--Data entry was done on INTEL-80386 based system nder SCO-Xenix operating system. Four terminals were used for ata entry operations. Data entry software was written by DESIDOC.

roof reading--Proof reading involved checking of entered input heets for spelling errors, typographic errors etc. Data entry, editing nd proof reading activities took around 250 mandays of the total mandays mentioned above. Optimum speed in proof reading could not be achieved because of the illegible handwriting used by some students while filling in the input sheets

Data editing--This was done by same set of people who have done data punching. Separate software was written for updation of fields, entry of new tags and positioning them at proper place. This software also includes delete module to delete wrong entered entries.

Implementation--The entire operation took 60 mandays because the software was again refined as it was working very well on test data but giving variety of problems in bulk data.

Hardware--Xenix-80386 based system with 4 terminals.

Expenditure-- The estimated cost of the total job for 11,550 documents is as follows:

| | | | |
|---|---|---|---|
| Data punching | : | Rs. | 40,200/- |
| Data preparation | : | Rs. | 95,000/- |
| Implementation | : | Rs. | 12,000/- |
| Grand total | : | Rs. | 1,47,200/- |

Total input sheets = 11,550

Conversion rate per input sheet = Rs 12.70

Problems faced-- No proven agency was available for undertaking data capturing jobs in CCF. Also no agency was available to punch data in leader, directory i.e. ISO-2709 format.

### GIST Transcript Card for Indian Scripts

Now you can work in any of the 14 Indian scripts on IBM-PC compatibile using the Transcript Card developed by Dr. Mohan Tambe, formerly of IIT Kanpur and presently CDAC at the University of Poona, Pune. This is Dr. Tambe's latest in Graphics International Script Technology (GIST). It enables one to enter the text in any Indian language and the PC does the transcription. The card works with all standard PC software packages like WORD STAR, d-BASE, FOX BASE and also CDS/ISIS. For further details contact Dr Mohan Tambe CDAC, University of Poona, Pune 411007.

### Data for Discovery: 12th International CODATA Conference 15-19 July, 1990

The 12th International CODATA Conference, 'Data for Discovery, has been organized around invited presentations from speakers representing 12 countries on six themes: Production of Global Change, Spatial Databases, Materials Data Systems, Expert Systems and Other Knowledge Tool, Trends in Integration of Information Across Biology, and Impact of New Technology on Data Handling.

The Keynote Address, "Future Directions of Science and Large Scale Scientific Computing," will be given by Professor of Physics K.G. Wilson, Ohio State University. Those desiring detailed information on the Conference Programme should address 12th International CODATA Conference, Applied Information Technologies Institute, 1880 Mackenzie Drive, Suite III, Columbus, Ohio, 43200, USA.

### Computer Communications Symposium

The Institution of Electronics and Telecommunication Engineers (IETE), Chandigarh Centre, is organising a two-day National Symposium on Computer Communications at CSIO, Chandigarh on April 11-12, 1990. The board objective of the Symposium is to bring together scientists, engineers, academicians, industries and policy makers to share their views and to evolve strategy for accelerating growth in this important emerging area.

The National Symposium will have five technical sessions and a session exclusively reserved for a panel discussion for consolidation of views, evolving appropriate strategy and drawing recommendations for considerations of the Government.

The technical sessions scheduled are:

1. International Scenario in Computer Communication.
2. Data communication and network management systems
3. Software standards and protocols in Computer Communications.
4. Present scenario in India and perspectives for 1990s.

Registration fees for the seminar will be as follows:
Sponsored delegates Rs. 250/-; Individual Corporate members Rs. 100/-; Individual students members Rs. 50/-.
The registration fee should be sent in favour of Hony. Secretary IETE, Chandigarh Centre, CSIO. Sector 30, Chandigarh.

**CAD/CAM, Robotics Conference**

Robot-aided manufacture and vision and speech for man-made machines were among issues discussed at the fourth International Conference on CAD/CAM, Robotics and Factories of the Future, December 19-22, 1989.

About 400 delegates from India, the United States and 10 other countries attended the conference at the Indian Institute of Technology, New Delhi, focusing on computer-aided disign and artificial intelligence to be used in factories of the future.

The conference brought together researchers and practitioners from government organizations, industries and academia interested in utilizing CAD/CAM(computer-aided design, computer-aided manufacture) and robotics to address productivity-enchancement issues.

Keynote speakers at the four-day conference were Dr. Raj Reddy, director of the Robotics Institute at Carnegie-Mellon University, and Dr. A. Vidyasagar from the Centre for Artificial Intelligence and Robotics in Bangalore.

Dr. Raj Reddy said India should consider the establishment of dualpurpose factories in the defence sector. These factories, which would normally be used for defence purposes only, could be tailored to civilian applications with minor changes in the robot software.

Describing factories of the future, Dr. Reddy said "fears that widespread introduction of robots leading to self-operated factories would displace humans are unfounded.

"Experience has shown such self-operated factories have to be compatible with human operations," he said.

He said the complexity of emerging factories has changed several concepts of manufacturing where humans used to be supervisors.

Supervisory roles have now been reversed, Dr. Reddy said. While humans used to supervise machines in factories earlier, computers are now being increasingly used to aid operations on production lines.

India and the U.S. could increase cooperation in robotics to aid India's efforts at industrial liberalization, he said.

Dr. Reddy, curently the president of the American Association of Artificial Intelligence, was presented the Legion of Honor by President Mitterand of France in 1984. His present research activities in the United States included the study of Artificial Intelligence, man-machine communication, applications-specific computer architectures and rapid prototyping. Prior to joining Carnegie-Mellon's faculty in 1969, he was assistant professor of computer science at Stanford University and an Applied Science Representative at IBM Corporation.

After Dr. Reddy's address, Professor S. Sampath of the Indian Defence Research and Development Organization chaired a special panel discussion on "Factories of the Future."

In his address on the relevance of robotics to developing countries, Dr. Vidyasagar said developed countries like the United States could play a leading role in expanding the use of robots in India.

**Robots in India**--Potential robot applications in India, he said, include the manufacture of military aircraft and space vehicles, routine jobs in nuclear reactors, handling of nuclear fuel and laying and defusing underwater mines.

Dr. Vidyasagar said many high-precision jobs require the use of robots and Indian companies aiming for the export market would have to go in for widespread robotization to make the production costs competitive.

Dr. Vidyasagar said the centre for artificial intelligence and robotics in Bangalore had launched a program to develop light-weight robots which use relatively less powerful motors and more powerful computers.

This would help develop a robot which would cost less than Rs. 500,000, which is far less expensive as compared to a typical industrial robot in the United States which costs between $ 50,000 and $ 100,000.

He said robots should be built to work in the existing production facilities. The robots must fit the job and not the other way around, he said.

The fifth conference in this series will be held in November 1990 at the Old Dominion University in Norfolk, Virginia.

**POPLINE Database in CD-ROM**

The National Documentation Centre of the National Institut of Health & Family Welfare has secured the POPLINE (Population Information On line) database for the centre to serve users in India.

POPLINE provides bibliographic citations and abstracts of the worldwide literature on population and family planning

The World's largest bibliographic population database, POPLINE brings together in an easily accessible computerized system published and unpublished literature in most languages. An online search rapidly locates citations and abstracts relevant to a particular topic. Search results can be formated to meet user's needs. An alphabetical list by author, by title, or chronologically by date of publication are only a few of the formats available.

POPLINE contains more than 160,000 citations from the worldwide literature on population, family planning and related health care, law, and policy issues. The POPLINE database presents citations and abstracts from 15 types of publications, including als, monographs and technical reports. About 30% of the rds represent difficult to-obtain unpublished documents. The ority of items date from 1970, but some sources date from as early 886. Ten percent of the records are from non-English language ces, but all POPLINE records are in English.

Presently the search and retrieval of citations from PLINE CD-ROM is free of cost. Contact Senior Documentation cer, National Documentation Centre, National Institute of Health Family Welfare, New Mehrauli Road, New Delhi-110067.

### hra Daily On DTP

Deccan Chronicle, a leading local daily of Andhra Pradesh e latest publication to have gone the DTP way. The Vijayawada ion of the newspaper has recently interfaced its existing totypesetting system (PTS) with that of Visionlab's DTP systems. h English and Telegu text can be entered and edited on the ionlab's DTP system which is said to be the only one that offers npatibility with PTS systems. It supports full newspaper page nposing and WYSIWIG preview in English and Indian languages, abling the display of the text in all point sizes, full graphics and in all thematical expressions. Another advantage is that text entered on Monotype terminals can be read into Visionlab's system. The npany claims that it is the ony vendor in the country whose DTP tem operates under Unix and supports upto eight multilingual minals.

### us Baffles Users

People are not the only ones who get stoned these days it ems--computers do too. In a replay of the drama of a few months o, computer users in Bangalore have been struck by a virulent new ain of virus named Marijuana. Like the earlier C-Brain virus, the w one surfaced in one of the large tutorial institutes and proliferated rapidly that in less than 10 days time, the list of the afflicted read e a virtual who's who of users in the city. Potentially more ngerous than its predecessors, Marijuana clambers onto a mputer's memory through an infected floppy from where it gets into e system hard disk. Once in there, it proceeds to systematically pe out the vital file allocation tables, rendering all the data stored in e disk totally irretreivable. Like the C-Brain virus however, arijuana is easily detectable since it announces its presence through ather cryptic message that goes: 'Your PC is stoned. Legalise arijuana'. Apparently it is not just users in Bangalore who have en threatened by the virus onslaught. A major national bank and an gineering college in Bombay were also badly hit last December.

### M-Informix Tie-up

The Bombay-based International Data Management Ltd. DM) has entered into an exclusive tie-up with Informix Software Inc., USA, credited to be the largest Unix database application ompany. The first company to have introduced a commercial and so an SQL-based RDBMS for Unix, Informix is also rated to be the econd largest Unix software company in the world, second only to T&T. With the tie-up IDM hopes to provide Indian users an pportunity to manage information on powerful Unix-based omputers, complimentary tools that offer multi-plantform access to ata and connectivity software--Computers Today, Dec. 89.

### niversal Agricultural Thesaurus Discussed

Representatives from the National Agricultural Library NAL), Commonwealth Agricultural Bureaux International (CABI), and he Consultative Group on International Agricultural Research CGIAR) initiated discussions on the need for a universal agricultural hesaurus at a meeting, at the United States National Agricultural ibrary, Beltsville, Maryland.

Staff from FAO AGRIS, CABI, CGIAR and NAL participated in a follow-up discussion meeting in Washington, D.C and it was agreed that a comprehensive universal agricultural thesaurus and gateway system would help researchers and scholars find information on specific topics in the multitude of agricultural databases available today. The detailed, scientifically sound, multilingual vocabulary would provide a consistent way of describing the major activities and concerns in agriculture and related disciplines; list systematically the taxonomic names of the most important plants, animals, and micro-organisms, and identify a common terminology for areas of interest for which no standards currently exist, for example, to describe agro-climatological regions. The gateway would provide an interface between existing retrieval systems and the comprehensive thesaurus; enable all users to take advantage of the enhanced linkages within the thesaurus to facilitate access to older materials with differing descriptors, and help all users with existing databses to take advantage of the enhanced thesaurus

Major beneficiaries would be developers and users of project databases, agro-climatological information systems, agro-ecological information systems, geographic information systems, bibliographic databases and genetic resources databases. The major issues which will be considered in the development of this thesaurus are governance and management, form and content, systems and funding.

For further information on these discussions and the follow-on activities, contact Pamela Andre; Chief, Information Systems Division, National Agricultural Library, Beltsville, Maryland, USA.

### Rural Development Information System

The Rural Development Information System (RUDIS) is based on a research project, begun in 1981 at the University of Ibadan (Nigeria), whose goals included: production of information resources suitable for use by non-literates, emergence of a prototype information support system for rural development projects in Nigeria and Africa, formulation of a programme of training library and information personnel for services in a non-literate environment, and giving an African orientation to library and information sciences.

The activities of the RUDIS project include the following:

- a small experimental library project near Ibadan to develop and test the methodology;
- Field surveys of the information environment of non-literates in Nigerian villages;
- graduate courses are being conducted at the University of Ibadan to prepare students for research exploration of the information needs of rural non-literates.

A model research project is envisaged that can be adapted to other communities and tested. Research materials and publications are also planned. Further information can be obtained from Professor B.O. Aboyade; Department of Library, Archival and Information Studies; University of Ibadan; Ibadan, Nigeria or c/o FID/ET Clearinghouse; School of Information Studies; Syracuse University, Syracuse, NY 13244; USA.

### Adoption of ISO International Standards

At its 28th session, the Working Party on Facilitation of International Trade Procedures of the United Nations Economic Commission for Europe (ECE) and the United Nations Conference on Trade and Development (UNCTAD) adopted a revised version of its 1975 Recommendation No. 7: Dates, Time and Periods of Time, based on new International Standard ISO 8601 Data elements and interchange formats--Information interchange--Representation of dates and times. The revised Working Party Recommendation uses

Participants at Course I : Management Training for Librarians

ISO 8601 to establish a methods for a standardized and unambiguous all-numerical designation of a given date, a given time of the day and a given period of time.

ISO 8601 describes a worldwide system for representing, in numeric format, calendar dates, ordinal dates, dates identified by week number, periods of time, and combined date and time of day. This international standard retains the most commonly used expressions for date and time of the day and their representations from earlier standards, which it replaces. The universal system proceeds from larger to smaller elements. For examle, 1989-12-05T23:20:50 designates 5 December 1989, 23 hours, 20 minutes, 50 seconds. --ISO Bulletin, Vol. 20. No. 4, 1989.

**World Translations Index (WTI) Goes Online on DIALOG.**

WTI is the unique source for existing translations of literature relating to all fields of science and technology. Translations cited are in Western languages, and nearly 70 percent are translations into English.

The database is the machine-readable version of the publication World Translations Index. WTI contains bibliographic citations, referring both to the original and translated documents, collected by the International Translations Centre (ITC) and the "Institut de l'information scientifique at technique--Centre national de la recherche scientifique" (INIST CNRS), Paris, France.

As of September 1989, the file (295) on DIALOG contains over 160,000 citations of translations dating from 1984 to the present. In the near future the backfile to 1979 is to be added; which will bring the total number of records to over 295,000. Monthly updates will give an annual addition of 30,000 records to the database.

In addition to the database, and the WTI publications, the ITC, in co-operation with the British Library Document Supply Centre (BLDSC), Boston Spa, United Kingdom, also publishes Journals in Translation. This bibliography, listing 1,121 titles, gives a detailed description of published journals containing translations. Both WTI and JiT give a comprehensive view of existing translations today.

**Management Training for Librarians**

A series of four courses on management for librarians and library administrators was held in Hyderabad from October 16 to November 18, 1989.

The courses were offered by the management faculty of the Institute of Public Enterprise, Hyderabad. In all, about 75 librarians from over 70 institutions including NISSAT centres, National documentation centres, universities, regional colleges of education and engineering public enterprises as well as government departments took part in the intensive course in batches of twenty.

The courses covered a wide range of topics such as management concepts, organisation design and dynamics and Management by Objective (MBO). The other topics covered included performance appraisal, inter-personnal communication, managerial leadership and motivation, etc. in audition to costing and pricing as well as marketing for non-rofit organisations. Also topics such as Management Information System (MIS) and Management of computerisation were covered at some length.

The methodology of training included formal lectures, participants' case discussions, case studies, as well as syndicate work. Each participant was asked to present and discuss his/her own managerial problems and the syndicate work was evolved around these problems. In general, the work included setting up of managerial objectives, identifying the problems as well as offering potential solutions.

The courses were evaluated by individual participants using the standard evaluation form prescribed by the Dept of Personnel, Government of India.

**Each course of 6 days' duration was designed for 20 participants. The actual participation was 19 library professionals per course with the average age of the participant at 45 in the age group 35 to 50. The course was received very well with an overall rating of 2.65 in the 3 point scale.**

On the basis of this course experience and suggestions ›ived from the participants, the course material is being revised proposed that a few more such courses may be organized in 0 so that several more of the senior librarians will be exposed to modern concept of management.

**Establishes Research Reviews**

FID has launched a new series: The Research Review in rmation and Documentation which will appear quarterly and will be lished in parallel in the FID News Bulletin and in the FID 'essional journal *International Forum on Information and cumentation.* It replaced R&D Projects in Documentation and 'arianship.

Research Review in Information and Documentation will 'e two main themes. The first theme will focus on research in cific countries, describing new and innovative work with the stress areas that are to develop in the future. The other main theme will icentrate on subjects that are currently under study and seek to ntify new trends, research aspects that should be explored, etc. In dition, international meetings on research topics and, to a lesser ent, new publications will be considered for inclusion.

Research Reviews in Information and Documentation will ture articles by leading professional researchers drawn from a le international professional community.

**ni-Micro CDS/ISIS Application for High Energy Physics eprints**

The European Organization for Nuclear Research (CERN) s developed, through international co-operation, a High Energy ysics (HEP) Preprints Bibliographic Database (PREP) which is an lispensable source of current information for HEP. Indeed, one rticular feature of the HEP community is its "preprints culture" with ighly organized flow of as yet unpublished manuscripts which are culated among more than 1.000 institutions. Consequently, efforts ve been made by several laboratories to produce preprints and ports databases but co-ordination of these efforts appears cessary and requires intrnational co-operation. An important user quirement in this context is that the database update and rresponding hardcopy display be ready in the major laboratories thin one week after arrival of the material. Initiatives have been ken to create a system of shared responsibilities with decentralized put in a common exchange format. The organizations involved are ERN (Switzerland), SLAC (Canada, USA), DESY (Federal Republic Germany), KEK (Japan) and IAEA (INIS Secretariat, Austria).

In order to facilitate the participation from less developed untries, a stand-alone application, MicroPREP, based on the new ersion of Uneco's Mini-Micro CDS/ISIS, has been developed.

The powerful and user-friendly database management atures offered by Mini-Micro CDS/ISIS allow the user to perform most all operations available in the mainframe system, such as on-ne fast search, data entry, production and printing of catalogues and dexes, specialized application development. To operate licroPREP, a minimum PC configuration with two floppy disks or one oppy disk and one hard disk is required.

In order to give the potential users of MicroPREP a general troduction to the sytem, CERN Scientific Information Service (TH/ IS) distributes a sample MicroPREP system on two diskettes ontaining the actual Micro CDS/ISIS program and 243 records of the 'REP database. This report provides step-by step instructions for etting started with data entry and information retrieval, and allows sers at the same time to test the system.

It is planned to make several years' bibliographic records on preprints available for local use The basic idea of decentralized processing is that, as a counterpart contribution, the MicroPREP centers will undertake to collect HEP preprints within their country/area and enter appropriate "local" PREP reocrds, which will subsequently be downloaded to diskette at regular intervals and submitted to CERN (transmission via Email is optional). On the other hand, Micro-PREP centers will receive "global" PREP updates from CERN on diskette regularly, which can be used to keep the MicroPREP file up-to-date by means of an automated merging routine.

For further information, please write to MicroPREP Service, CERN (TH/SIS) 1211 Geneva 23

**First Multi-lingual Agricultural Research CD-ROM Released**

The Consultative group on International Agriculture Research (CGIAR) has released "Food, Agriculture, and Science", the first in a series of CD-ROMS which will eventually constitute a full agricultural library with 6,000 titles. Trilingual aids in English, French and Spanish on floppy disks accompany the CD-ROM.

Among the titles included are a farmer's primer on rice growing, field problems of beans in Latin America, potato research, agriculture-aquaculture farming systems, trends and projections of food in the Third World and sorghum breeding.

This new CD-ROM will be distributed free of charge to interested institutions in developing countries by international agricultural research centres, and will be sold in the United States for USD99 from Knowledge Access International, Mountain View, CA 94043. For more information, contact CGIAR, C/o World Bank, 1818 H Street N.W., Room N 5063, Washington, D.C. 20433, USA.

**Scanfile: On-line Translation**

Japanese scientific and technical databses will soon be instantly translated on-line into English by Japanese manufacturer, Fujitsu. The system called Scanfile is expected to be launched in late 1990 in the United States.

United States users will be able to dial up the Fujitsu mainframe in Japan. They will then input requests, which proprietary software, called Atlas, converts into Japanese commands. These are transmitted to the database, where all files on the topic requested are searched. Titles and abstracts are converted into English and sent back to the user in the United States. The process takes only a few minutes.

While pricing has not been finalized, it is expected that Scanfile will be sold on a subscription basis. Similar translators are planned for four other languages: Chinese, German, Korean and Spanish. --Information World Review, No. 41, 1989

**Managed Data Network Service**

British Telecom (BT) has introduced a new managed data network service in order to more accurately predict data networking costs. The service will run on BT's public data network PSS and will allow customers to send as much traffic as they wish in return for a fixed annual sum. The creation of this service is in response to a demand for more closely tailored customer services. BT will undertake network design and provide a nominated project manager and a system engineer. There will also be a singled dedicated fault reporting point with a four-hour response time and automatic escalation procedures. --Computer Communications, Vol. 12, No. 4, 1989.

## Directory of Indian Processed Food and Allied Industries

The Central Food Technological Research Institute (CFTRI), Mysore will be shortly releasing the above Directory. Included in the Directory is a listing of over 4000 major food processors/exporters in the area of fruits, vegetables, bakery and confectionery, dairy, fish, meat and poultry, additives, packaging, etc. Additional information included is food laws and regulations; finance, license and quality control agencies; training organisations; R&D agencies and other development agencies. The Directory is divided into six major parts, i.e. (1) Processed Food Industries (2) Allied Industries, (3) Exporters, (4) Industrial Production and Regulation Agencies, (5) Indian Food Laws, Regulations and Specifications, and (6) Appendices.

The 752-page Director is an invaluable and indispensable guide to food processors, traders, exporters and others who wish to have an overview of the food processing sector. For easy reference, the entries are arranged alphabetically giving name of the manufacturer/exporter, address, products (trade names), phone numbers and telegraphic code. An Index giving information on range of products, flavours and additives available in the country adds to its usefulness as a comprehensive reference guide.

Price Rs 500/- ***plus*** packing and postage (Regd. Post) Rs. 25/-. Copies can be had from the Sales and Distribution Officer, FOSTIS, CFTRI, Mysore-570013.

## International Bibliography Available

This reference source is an annotated bibliography of the publications produced by intergovernmental organizations ranging from the United Nations, the World Bank, OECD and EC to smaller organizations. The bibliography is divided into two sections: the bibliographic record and the periodical record. Also included are an Organization Index, a Title Index and a Subject Index. A separate section on "How to Acquire Publications" gives information on ordering the cited publications. The bibliography is published quarterly. The yearly subscription price which includes handling and shipping is USD90 in the United States and canada and USD98 in other countries. Prepayment is required on all orders. Orders and inquiries can be directed to Kraus International Publications, One Water Street, White Plains, NY 10601

## Information 90

A major international conference in the field of Library and Information will be held at the Bournemouth International Center, United Kingdom, from 17 to 20 September 1990. Further information from: Concorde Service Ltd., 10, Wendell Road, London, W12 9RT.

---

## Current Topic: Editor Computer

STYLE is the man, it is said. But it may soon be 'style is the computer', if the latest language processing computers now in use in the US find universal application. Hitherto, we are familiar with computers programmed to tell us the correct spelling, synonyms and upper and lower cases of words. The latest ones are more invasive. They scan your writing, analyse your style, suggest which active verbs to us, improve your syntax, and in one case, provide automatic translation in five languages.

The four varieties of language processors in use are known as the writers' workbench, Critique, Max and Rina, each specialising in language processing in its ownway. The Critique, for instance, lays down that the words in a sentence have maximum impact when they are limited to 15 words in technical manuals, 20 words in business letters and 23 words in academic papers, newspaper articles and fiction books.

Researchers admit that in the electronic age we are "more promptly -- but less judiciously informed." This is because the demands of speed and efficiency have chipped away at style and wordage. Besides, they concede that good editing demands interpretative powers and decisions, both items at which language processors have limitations. But writers and students in some 60 universities ad schools in the US have found the Colorado University's Writers' Workbench computer handy. Companies doing abroad find Max very useful since it provides automatic translation for some 8,000 English words approved by it in five languages.

A study of the language processors undertaken by Ms Barbara Wallraff recently showed up the strength and weakness of language processors. She maintains there is still a l ong way to go before comuters judge not only structures, but meaning and the thought processes too. Most readers take in both the explicit and the implicit connotations or meanings of words. "Knowledge is not just a data-base." the expert says and we should not feel humbled by the majesty and infallibility of technology.

R.N.-34608/78
RNI New Delhi

[illegible]

ISSN 0970 – 0188
APRIL–JUNE 1990

90/

# NISSAT

NEWSLETTE

rterly Organ of National Information
System for Science & Technology
Department of Socientifc &
Industrial Research, New Delhi

# NISSAT

NEWSLETTER

Vol. 9 No. 2 Apr.-June 1990

**Editorial Committee**

Dr. A. Lahiri
Jt. Adviser (NISSAT)
Department of Scientific & Industrial Research
New Delhi-110016

(Smt) S. Ravindran
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri B.G. Sunder Singh
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri S. Nagarajan
Society for Information Science
c/o PID, New Delhi-110012.

Shri P.C. Bose, Secretary,
Society for Information Science
c/o ARIC, New Delhi-110012.

Shri R.N. Sharma
Society for Information Science
c/o PID, New Delhi-110012.

**Editor: Ram D. Taneja**

**Editorial Office:** S-371, Greater Kailash-1,
New Delhi-110048.

© 1990 DSIR, New Delhi.

Published by the Society for Information Science on behalf of National Information System for Science & Technology (NISSAT),
DSIR, Government of India,
Technology Bhawan,
New Delhi-110016.

**NISSAT Newsletter**, published quarterly, is the official organ of NISSAT, and is aimed at disseminating information concerning programmes, activities and achievements of NISSAT as also of the various centres functioning under it. Additionally, it attemps to project major developments in the field of information science at national and international levels.

Communications concerning the Newsletter may be addressed to Dr. A. Lahiri, Jt. Adviser (NISSAT), Department of Scientific & Industrial Research, Government of India, Technology Bhawan, New Mehrauli Road, New Delhi-110016. Material published in the Newsletter can be reproduced with due acknowledgement to the source.

**Cover Design: N.N. Sethi, Associated Artists, New Delhi-110001.**

## Library Automation The Real Crunch

Library automation requires close interaction between computer scientists and library professionals. Computer professionals usually do not have a grasp of the entire gamut of library operations; as library users they have limited exposure to circulation mechanism and tend to confuse library activities as a cross between inventory control and billing systems. On the other hand, librarians are more bothered about acquisition/accounting systems and generally have scant regard for developing the interfaces with users. A few packages in dBASE, COBOL or FORTRAN with fancy entry menus get developed. The system is then demonstrated to the library decision makers with a small number of records. Afterwards, with growth of databases, either the decrease in response time of retrieval or the magnitude of data conversion requirements, act as dampers to enthusiasm of both developers and promoters. Nevertheless, the decision makers do not lose any opportunity to claim that their library is indeed automated.

It is however, necessary to emphasize that all such efforts need not be considered wasteful. These practical exercises provide an exposure to the ground realities. Viewed in that spirit, the recent spurt in library automation ventures should be welcomed.

However, we need to proceed more objectively in our library automation ventures. On the one hand, we have the Unesco supported CDS/ISIS — a package which is available free of cost but its operation is limited to single user environment (though it reportedly works in LAN environment also). On the other hand, Local Library Management packages like LIBSYS, ASLIS, WILISYS, LIBMAN and ARCHIVE are available at cost. Though these may pose problems of portability and customization in a multi-user environment, these developments are to be taken seriously. Some of these already have installations. Perhaps, the NISSAT Software Resource Centre will make an attempt to procure a copy of all indigenously made software. If successful, this would be the one-stop shop for comparative studies of packages against users interest profiles. The point to be noted here is that for software, one need not make a fresh effort for development; there is already a lot to choose from.

One aspect of library automation that warrants serious attention is the problem of retrospective conversion. So far, we have not been able to find a suitable model for conversion of existing library records. The usual approach of keying in all items A to Z, does not work either. The activity may start with current periodicals. In case of monographs, perhaps inputting of the live collections given by the circulation tray plus current cataloguing efforts, would suffice. Even this much may be difficult to accomplish through regular staff. Contractors to handle such peakload situation are not available. Using LCMARC, UKMARC, or OCLC, WLN databases through selective downloading is a distinct possibility to be experimented with.

Thus the problem is not the hardware or software as is usually made out. Retrospective conversion appears a major concern, but what is most needed is evolution, adoption and enforcement of discipline in the work place of library automation.

NISSAT

NEWSLETTER

Vol. 9 No. 2 Apr.-June 1990

## CONTENTS

Library Automation: The Real Crunch 1

Local Area Networks: Requisites for Structure and Applications 3

National Workshop on CCF: The Common Communication Format 8

Accessing S&T Information: NISSAT Emerges as Key Component 11

Development of Pharmaceutical Industry — UNIDO Meet Discusses Network for Information Exchange 16

Unesco General Conference: PGI Activities Commended 17

ASTINFO-NLA-NISSAT Document Delivery Pilot Project 18

NISSAT Supported Manpower Development Programmes— Calendar of Events 19

UNIDO Reference Guide for Developing Countries 22

News and Events 23

# Local Area Networks:Requisites for Structure and Applications

M. Natarajan
Indian National
Scientific Documentation
Centre, New Delhi

As progress in the automation of libraries continues creating networks of geographically separate libraries becomes more plausible. The use of telecommunications equipment plays a vital role in the Local Area Network (LAN). Telecommunications encompasses the electronic transmission of voice, data and video information from one location to another. Libraries are becoming more interested in linking local library system for resource sharing. A LAN can readily replace much of the paper flow with electronic documents in an office environment. This article gives some basic telecommunication and designing concepts of LANs.

## Definitions of LAN

1) A LAN is a facility that provides data communication and video or voice, if desired, within a single building or among a close cluster of buildings.

2) LANs are concerned with interconnection of distributed communities of computer-based data terminal equipment whose physical separation is confined to a single building or localized group of buildings.

3) A LAN is a means of sharing resources among microcomputers and other computer system components. The shared resources may be one or more physical devices or information and logical components.

4) A LAN is a method of linking computers and other devices at very high data transfer rates within a restricted physical area.

The basic LAN consists of a software package and several pieces of hardware, including two or more PCs linked by twisted pair or coaxial cable. The term local refers to the limits imposed by the cable running to each piece of equipment which may range from a few hundred metres to a few kilometres.

## Why of LAN

The Primary objective is to provide access to data and to transport data from one mode to another.

LAN linkage in a multi-vendor situation offer advantages like:

1) Greatly reduced modem and data line expenses;
2) Increased sharing of expensive resources;
3) Optimize the use of parts on a host processor.

The following points should be considered while the telecommunications netwrok is being developed:

1) How much information will be transmitted?
2) How much time will be necessary to access the computer ?
3) How fast do you want to send data ?
4) How many terminals will each remote site use ?
5) Do you plan to service more than one office environment on a circuit ?
6) Will peripheral equipment be used ?
7) Can the telecommunications system be made "fault safe" ?
8) How reliable is the equipment ?
9) Is it less expensive to buy from a vendor, or from an independent source ?
10. Is the system simple, documented and easy to change ?

## Design Concept of LAN

a) Circuitry - the physical media used;
b) Access methods - the approach used to handle access to the LAN by the devices connected to it;
c) Topology - the physical design of the LAN; and

| | |
|---|---|
| d) Bandwidth | the measure of the transmission capacity of the LAN. |

a) **LAN Circuitry**

The most common circuit types are coaxial cable and twisted pair telephone-type wire systems. As splicing technology improves, fibre optic cable will become more common in the future. Packet switching transmission is used since it provides better use of the network circuits than techniques that transmit an entire message in a continuous string (message switching).

Communication systems in which a series of computers are connected by communication lines and used to move packets from sender to receiver became known as "packet switches". Packet switching technology takes advantage of the fact that data communication users can rarely utilize the entire capacity of a connecting line. A packet switch provides users with dedicated paths only to a computer element within the network called a "node". The user's node is connected to other nodes in the network by a series of trunk lines. These lines are shared among all users who connect to the node directly or connect indirectly to other stations in the network thrugh the node. The ability of nodes to control line sharing allows data exchange at less expensive rates than can be achieved by circuit switches or leased telephone lines. Any of several "routes" between users can be used to transfer information which also makes packet networks highly reliable.

b) **Access Methods**

LANs must prevent data collisions which could occur when two or more devices want to access and send information on a single channel to transmit data effectively at the same time. Strategies often used to avoid collisions are the Carrier Sense Multiple Access/Collision Detection (CSMA/CD) and token passing.

CSMA/CD

The CSMA/CD access method is used solely with bus networks, where each node is interconnected via a single common transmission medium (cable). Data transmitted by a node propagates in both directions on the bus to the other network nodes. The cable is thus said to operate in a multiple access (MA) mode. All data are transmitted by sending data terminal equipment (DTE) first encapsulating the data in a frame with the required destination DTE address at the head of the frame. The frame is then transmitted or broadcast on the cable. Access to a CSMA/CD bus is probabilistic and depends on the network (cable) loading. Also as the bit rate used on the cable is very high, the network loading tends to be low. The probability of a collision occurring is in practice low since the transmission of a frame is initiated only if the cable is inactive.

CSMA/CD bus networks are used extensively in technical and office environments, also known as ETHERNET. It is implemented as a 10 Mbps baseband coaxial cable network.

The integrated tap and transceiver unit includes tap, which makes a non-intrusive physical connection to the coaxial cable, closely coupled to the transceiver itself. The transceiver contains the necessary electronics to :

- send and receive data to and from the cable;
- detect occurrences of collisions on the cable medium;
- provide electrical isolation between the coaxial cable and the cable interface electronics;
- protect the cable from any malfunctions in either transceiver or the attached DTE, referred as jabber control. The jabber control essentially isolates the transmit data path from the cable if certain defined time limits are violated.

The communication controller card contains :

a) a medium access control (MAC) unit; and

b) a separate microprocessor, which implements both the network-dependent protocols and also the higher level protocols.

In this way, the complete communication subsystem is normally self-contained on a single printed circuit card that slots into the host system bus and provides a defined set of network services to the host software.

**Token Passing Method**

By token-passing access methods a device can transmit only when it possesses a logic "token". The token is passed between devices in the network along a predetermined sequence and only the device with the token is allowed to transmit. The sequence of operation is as follows :

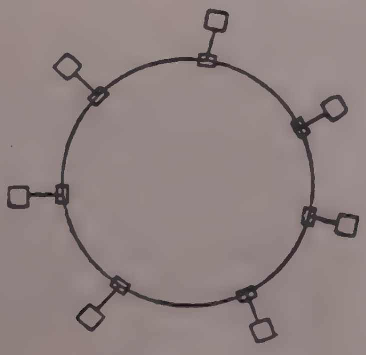
- a logical link is first established, which links all the DTEs connected to the physical medium and a single control token is created;
- the token is passed from DTE to DTE around the logical ring until it is received by a DTE waiting to send a frame(s);
- the waiting DTE then sends the waiting frame(s) using physical medium, after which it passes the control token to the next DTE in the logical ring.

The feature of the token access method is that it is possible to associate a priority with the token, thereby allowing higher priority frames to be transmitted first.

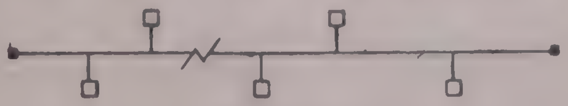
### c) Topology

The topology of a LAN usually follows one of the three configurations :

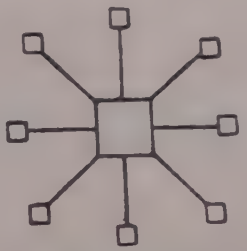
- Star
- Data bus or
- Ring


RING topology

**Star Configuration** — In a star configuration, all devices are connected to a central point using a single line for each connection. Many star LANs are based on private branch exchange (PBX) telephone systems. So, they are operationally dependent upon the reliability and loading of the central PBX controller, but they often have a relatively slow transmission capacity - 56 kbps for each twisted pair wire.


BUS topology

**Data Bus Configuration** — Bus topologies are characterised by the fact that every node has a single bidirectional connection to a shared cable. Each node, therefore, is directly, physically connected to every other over this shared cable. Thus any node transmits directly to every other attached node. Since the data bus cable is usually open-ended, information packets flow outward in both directions from each point of connection.


STAR topology

**Ring Network** — The ring topology consists of active repeater stations interconnected by the transmission medium to from a closed loop. Each node is connected directly to two others. Packets of data are inserted into the ring by user terminals attached to the repeater stations; these packets traverse the ring with all nodes examining the address space of the packet to select packets addressed to them. The interstation cable may consist of a variety of media. In particular, optical fibres are suitable as transmission is essentially unidirectional and no spurring is required. Ring networks are generally designed so that a node which fails can be easily bypassed.

### d) Bandwidth

Under a baseband approach, the entire capacity of the LAN or the data channel is utilized by one user at a given movement. While the speed of transmission is quite fast, typically 2 to 15 megabits per second, the entire capacity of the system is dedicated to one user at a given movement.

Under a broadband approach, the capacity of the system is divided into segments or channels.

Each channel may be assigned to a different use. So, hundreds of users may use the LAN capacity concurrently for widely different applications. Since the transmission capacity is divided into multiple segments, each carrying a major communications load, the total capacity of the broadband LAN is far greater than that of a baseband LAN.

### Choice of PC Lan

Lan options may be exercised using any of the following:

1. EPABX based LAN
2. BY connecting RS 232C Cable.
3. Ethernet LAN

The Ethernet system contains no end-to-end acknowledgement protocol and packet delivery is not guaranteed. Users are expected to provide higher level protocols which check on the correct delivery of packets.

In RS 232C cable LAN, the distance becomes more limited depending upon the length of the cable.

EPABX facility is the best choice since it belongs to the organisation and the facility may be extended at any time whenever LAN is needed, so that any number of users can have access to the facility. Cost will be less compared to other LAN facilities and the speed of access may also be less.

### Multiuser Terminal

The central file server acts as an agent for receiving and delivering the requests/mail of the users who are remotely logging into the machine. In an UNIX based machine there may be three more users working with the central file server at the same time. Thus, the Databases can be shared and the speed of access is more compared to other LANs.

### Central file server and LAN operating system

For LAN central file server will be UNIX based machine and LAN will be operated under uucp protocols in UNIX environment. Central file server will act as a clearing node for other user nodes. User nodes are DOS based machine which works as a terminal of central UNIX based machine.

### Applications of Lan

In a special library and information centre, the applications of LANs may be enumerated as follows :

- On-line searching
- Diaries of events
- Electronic Mail
- Viewdata

On-line searching via microcomputer is a common feature and a number of packages are available to automatic loading and downloading of search results. Search results are saved to disk and then further manipulated under wordstar.

Maintenance of an "electronic diary" to large information departments or whole organisations is the most useful application of LANs. Staff can consult the diary online or in its printed form.

E-mail is another application often associated with LANs and the viewdata is restricted to one user and one workstation. Electronic mail or text messaging can be used to send both urgent and routine messages. Messages can be sent to more than one destination and to individuals not on the network by using the gateway connection to other private or public networks. E-mail facilities can reduce the time and expense of interpersonal communication.

### Advantages and Disadvantages of LANS

Advantages

1. The primary advantage is data sharing, especially large volumes of dynamic data.
2. LANs have an enormous cost advantage over any other type of facility because they involve only a one-time cost, with little or no recurring cost.
3. Maintenance costs are typically minimal. On going costs are usually limited to the purchase of new connectors if additional equipment is connected to the LAN.
4. Machine to machine communication is much faster than machine to human, since a nonthinking machine can accept data much faster than a human can absorb and interpret it.

5. Since PCs are used, many small libraries will be able to take advantage of the benefits of library automation.
6. Since programs can be down-loaded to a desktop computer, in many instances a library simply adds software for a new application and an additional microcomputer terminal.
7. Improved high density, disk storage is now available for small microprocessors to meet the local storage needs.
8. The ability to share peripherals, such as high-speed or letter quality printers and the facilitation of rapid communication between users via E-Mail.
9. Another advantage of LAN is the potential for expandability.

### Disadvantages

1. Lack of applications software is a major issue.
2. A second software issue involves possible violation of copyright law.
3. Problem of software may occur with supplier and dealer support of LANs.
4. Planning for a LAN requires the protection of data which is sensitive to misuse.
5. The second concern is the integrity of the database.
6. A LAN may confine one geographically, however, because cabling costs for a LAN are high.

### Conclusion

The emergence of LAN technology and the proliferation of LANs over the past few years has led to the realisation, by both manufacturers and users alike, of the need for LAN standards. Standardization benefits manufacturers because they can produce a large quantity of similar components instead of small numbers of different specialized components. Users benefit because they can easily specify a standard LAN. In addition, standard equipment should be available from a number of vendors. The IEEE 802 standards committee is developing standards for various LAN media and access schemes. It is also working on standards for higher level protocols as well as those areas related to internetworking such as addressing, gateways and network management. The LAN facility will help find traditional solution to communication problems and it may be used extensively for better office and commercial environments.

### Bibliography

1. Angier, Jennifer J. and Hoehl, Susan B. Local Area Networks (LAN) in the Special Library. Part 1-a Planning Model. *Online* 1986; Nov. 19-28.
2. Booth, Grayce M. The Design of Complex Information Systems.
3. Bose, Anindya. Integrated Hardware for Information Management. *Bull ASIS* 1986; Oct/Nov. 26-27.
4. Boss, Richard W. Telecommunications for Library Management.
5. Buck, Dayna E and Krois, Jerome W. Telecommunication Considerations in an Automated Library Network : An Introduction. *Lib Hi Tech* (16), 77-80.
6. Copeland, J. M. and Flood, S. Applications of LANs in Special Libraries and Information Services : Reasearch in Progress. *Program* 1985; 19 (1), 72-76.
7. Englisn, P. D, Ed. Data Communications : Local Area Networks. State of the Art Report 11 : 8 ii.
8. Farr, Rick C. The Local Area Network (LAN) and Library Automation. *Lib. J.* 1983; Nov. 15, 2130-32.
9. Halsall, Fred. Data communications, computer networks and OSI. 2nd ed.
10. Hoehl, Susan B. Angier, Jennifer J. Local Area Networks (LAN) in the Special Library. Part 2 - Implementation. *Online* 1986; Nov. 29-36.
11. Van Houweling, Douglas E. The Information Network : Its Structure and Role in Higher Education. *Lib Hi Tech.* (18) 7-17.
12. Lewin, Leonard, ed. Telecommunications : An Interdisciplinary Text. 419-448.
13. Mason, Robert M. Automation and LANs at ALA *Lib J* 1984; Sept. 15, 1736-7.
14. Mason, Robert M. Should You Consider a PC Local Area Network ? *Lib J* 1985; June 15,42-43.
15. Mel Collier and David Piper. Multi-site Library Networking : Experience of the Polytechnic of Central London. *Program* 1984 ; 18 (2), 147-156.
16. Microcomputer Networking in Libraries (I) & (II). *Vine* 1983; 48, 21-29.

# National Workshop on CCF: The Common Communication Format

(*Above*) Mr Alan Hopkinson and (*left*) Prof. Peter Simmons, Resource Persons (Unesco)
(*Below*) Workshop Faculty and Participants Group

NISSAT-UNESCO-ILA NATIONAL WORKSHOP ON CCF: COMMON
COMMUNICATION FORMAT NEW DELHI FEB. 19-MAR. 2. 1990

New Delhi was the venue of a two-week national workshop organized by National Information System for Science & Technology (NISSAT) on Common Communication Format (CCF) during 19 Feb.-2 Mar. 1990. Unesco placed at the disposal of NISSAT, valuable services of Prof. Peter Simmons and Mr Alan Hopkinson as Resource Persons.

In India, local database development activities are slowly gaining momentum. Several library and information centers are in the process of acquiring their own computer facilities and are now at different stages of automation. There have also been many computer appraisal programmes, workshops, seminars and brainstorming sessions geared to develop local skills in computerized information handling.

The recent impetus to diverse information activities stems not only from the government policy on electronics, communications networks and information systems, but also from the professional understanding, development of new skills and the motivation to use information technology to the extent possible. We now have several national information centers — on machine tools, leather, chemicals and allied industries, textiles, drugs and pharmaceuticals, bibliometrics, and CD-Rom established with the support of The National Information System for Science & Technology (NISSAT). Similarly, other national information systems like the Bio-technology Information System (BTIS), Environmental Information System (ENVIS), National Informatics Centre-District Information Centres (NIC-DIS), NIC- Indian Council of Medical Research (NIC-ICMR) on Biomedical Information have also come up. At the national level, India has DESIDOC, INSDOC and NASSDOC providing information and document delivery services in defence science, science and technology and the social sciences. The National Library carries out its own functions and services including the production of INB for current Indian publications. The University Grants Commission supports several Indian Universities in providing computer based information services in science and technology, the social sciences and the humanities as well. UGC's National Centre for Science Information at Indian Institute of Science, Bangalore also provides SDI services on INSPEC, BIOSIS, MATHSCIENCE, GEOREF and Chemical Abstracts to the academic and research personnel in universities.

There is also an ever increasing number of CDS/ISIS Mini Micro Version, MINISIS and a variety of exotic and some indigenous software sites. A noticeable interest in developing software for Library Management — DELMS, LIBSYS, ASLIS, WILISYS, to name a few commercial ventures, is also in evidence. Apart from the myth of self-sufficiency, the ever increasing needs and cost differential for maintaining fairly good local information resources, one now realizes the need for collective sharing. These developments have recently led us to think of INFLIBNET, CALIBNET, DELNET, INDONET, NICNET and so on.

An area of great concern is that of database generation. In the context of sharing resources, especially bibliographic information on network and on physical media, the database activities have been more localised in their utility. There have been islands of knowledge/expertise on MARC and Exchange Formats which need to be brought into the mainstream of INDIMARC. A more recent Indian effort is the formulation of IS 11370:1985 Guide for data elements and record format for computer based bibliographical databases for bibliographic description of different kinds of documents.

NISSAT has also initiated work towards a draft proposal for the generation of a guide to the creation of bibliographic records for Monographs using CDS/ISIS software, CCF Content designation and AACR II Cataloguing Rules. However, as familiarity with MARC and CCF increased among the Indian library and information community, need was felt to provide for a wider understanding of Formats, the implications of their use in local database generation, exchange of records, retrospective conversion and networking.

It is against this background that NISSAT organized a National Workshop on Common Communication Format during Feb. 19 - 2 Mar. 1990 in New Delhi. UNESCO was gracious enough to provide for the services of both Prof Peter Simmons and Mr Alan Hopkinson as Resource Persons for the National Workshop.

The major objective of the workshop was to provide the Indian information scientists an opportunity to interact with Prof. Peter Simmons and Mr. Alan Hopkinson, understand the concepts related to Bibliographic Formats and applications of CCF and UNIMARC.

Besides deciding the modalities of organizing the workshop, an organizing committee also suggested a list of invited participants from several organizations — including academics from some Indian Universities, NISSAT Sectoral Centres, CSIR organizations, ICSSR, DESIDOC, INSDOC, ISRO and the like. Prof F.J. Devadason from DRTC/ISI Bangalore contributed his services as an Indian

Resource Person. There were 48 participants from all parts of the country. Mr Hopkinson and Prof Devadason acted as Resource Persons for a five-day workshop providing hands on sessions for CDS/ISIS and MINISIS users implementing CCF or UNIMARC.

The first week was devoted to understanding the concept of bibliographic formats — input as well as exchange formats, and the various local and international implementation. The resource persons shared between them — such topics as Historical Development MARC I to ISO-2709, UNISIST RM, UNIMARC, The Taormina Symposium and CCF. Prof Simmons presented the participants the use of CCF as an exchange and switching format and CCF as a model for Input Format. Mr Hopkinson covered UNIMARC as a Model for National Format and as an exchange format. The Authority Formats in US MARC and UNIMARC, CCF and AACR II, CCF Linking techniques, Implementation Notes etc were also dealt with in greater detail. The Fourth day was devoted to a briefer understanding of the International use and Implementations of CCF — in countries like Columbia, Yugoslavia, Brazil, and China, and CCF in countries like South Africa, Taiwan, Japan, Portugal, and Yugoslavia. The logical relationship between CCF and UNIMARC was also clarified. Prof. Simmons demonstrated the Conversion Programme for UNIMARC to CCF via ISO-2709. A lively question-answer and a sum up session by Prof Simmons and Mr Hopkinson marked the end of the first week on Formats, CCF and UNIMARC. The Resource Persons expressed their satisfaction over the participants' interaction, facilities provided, document support given and the overall organization of the workshop.

Another feature of the workshop was that some of the participants made presentations on their local database activities, implementation of software packages like CDS/ISIS Mini Micro, MINISIS, DELMS (Defence Library Management System), FOSTIS, AGRIS (CFTRI, Mysore and ARIC, New Delhi) during the first week. Mr H.K. Kaul (IIC and DELNET) spoke on implementation of CDS/ISIS, CCF and AACR II on a pilot scale; Mr Vishwanatham and group dealt with the database activities at JNU on MINISIS, INMAGIC and CDS/ISIS. Mr Krishna Rao (CFTRI, Mysore) and Mr P.C. Bose (ARIC, New Delhi) made brief presentations on their local activities *vis-a-vis* FOSTIS and AGRIS respectively. Prof M.M. Kashyap (Delhi Univ) stressed the need for data element designations based on CCF. Mr R.K. Srivastava (DESIDOC Group) spoke on the features of DELMS (Defence Library Management System) and implementation of CCF on DELMS.

The second week was handled by Mr Hopkinson and Prof Devadason. The participants — split into two groups, one the CDS/ISIS and the other MINISIS. These groups had not only a quick run through CDS/ISIS and MINSIS features but also the CCF and UNIMARC Implementation as well. The implementation/hands on sessions on MINISIS and CDS/ISIS packages and was handled by Mr Alan Hopkinson and Prof F.J. Devadason. These sessions gave the participants the opportunity to strengthen the theoretical base and appreciate the bibliographic formats, standards, and local implementations better. During the concluding session, Dr A. Lahiri, Director (NISSAT), Prof Krishan Kumar, President ILA and Head, Delhi Univ, Prof C.P. Vashisht, Secretary, Mr M.L. Kachroo, Treasurer of ILA thanked UNESCO, the resource persons and the participants for making the workshop a successful and rewarding event.

A Joint Meeting of CALIBNET, DELNET and INFLIBNET Standardization Committees involved in the choice of bibliographic standards and Formats for respective networks marked the conclusion of the two-week CCF Workshop.

As a follow-up, it is proposed to organize several regional Workshops in India on conversion of bibliographic information from various MARC formats (for instance, US MARC, UK MARC, MALAYMARC, AUSMARC, etc), and the various aspects of retrospective conversion.

B.G. Sunder Singh

# Accessing S&T Information: NISSAT Emerges as Key Component

The last few years have witnessed a sea change in the S&T information scenario in the country. Easy and quick access to information through organized information centres integrated into a network is one manifestation of this change.

Promoting and supporting this process is the ubiquitous NISSAT, the apex information coordinating agency under the Department of Scientific and Industrial Research. By establishing sectoral centres in different S&T areas and running a series of programmes for education and training of those responsible for manning the centres, NISSAT has spearheaded the development of endogenous capabilities to meet the fast growing appetite of scientific and technological community for information in diverse areas.

An overview of NISSAT's activities during 1989-90.

Under the NISSAT Programme the major instrument for information resources development and dissemination is a sectoral information centre which provides bibliographic as well as factual and numeric information on a product, discipline or mission. The Sectoral Centres so far established under the NISSAT Programme are given in Table 1.

**Table I: NISSAT Sectoral Centres**

| | Sector | Institution |
|---|---|---|
| i) | Leather Technology (NICLAI) | Central Leather Research Institute, Madras |
| ii) | Food Technology (NICFOS) | Central Food Technological Research Institute, Mysore |
| iii) | Machine Tools (NICMAP) | Central Machine Tools Institute, Bangalore |
| iv) | Drugs and Pharmaceuticals (NICDAP) | Central Drugs Research Institute, Lucknow |
| v) | Textiles and Allied subjects (NICTAS) | Ahmedabad Textile Industry's Research Association, Ahmedabad |
| vi) | Chemicals (INCHEM) | National Chemical Laboratory, Pune |
| vii) | Compact-Disk (NICDROM) | National Aeronautical Laboratory, Bangalore |
| viii) | Bibliometrics (NCB) | Indian National Scientific Documentation Centre, New Delhi |

The Centres were built around the existing information resources and facilities. They were, however, provided with a wide range of documents, sophisticated equipment and manpower so that they could provide information services on a national scale. They maintain an extensive collection of published and unpublished documents in the form of books, periodicals, research reports, development a trade reports etc., pertaining to the relevant subject area. Regular monthly technical publications from these centres include Current Indian literature, Patents highlights and Industry highlights in respective sectors and also semitechnical and popular ones in the form of digests. Besides, the centres have also brought out *ad hoc* publications like Buyers Guides, Directories of Agents, Research, Foreign Collaborations, etc. The Centres have also developed information management tools like thesaurii.

The sectoral centres have created and are maintaining several databases to cater to different information requirements of their clientele. For example, NICMAP maintains Bibliographical Database, Patent Database, World Machine Tools Statistics, Indian Machine Tool Production Statistics Database & Import/Export Statistics Database; NICDROM has Library & Information Science Abstracts (LISA) database on CD-ROM etc. Services provided by these centres also include document supply, compilation of special bibliographies, publication, patents search, reprography, micrography, translation and industrial enquiry services.

### National Citation Index

Bibliometric studies for evaluating research outputs have generated considerable interest in science and technology community in India and the Science Citation Index (SCI) is now widely used for such studies. However as SCI covers only 18 Indian periodicals and cross-citations among Indian literature get totally overlooked, such exercises may lead to under-evaluation of the Indian S&T contributions. In order to supplement the SCI database, preparation of a National Citation Index has been conceived of at the National Centre on Bibliometrics, a project of NISSAT at INSDOC. The NCB, possibly in collaboration with Defence Scientific Information & Documentation Centre (DESIDOC) and Indian Council of Medical Research (ICMR), would now prepare the database initially with a set of about 300 Indian journal titles.

**Databases on CD-ROM**

In spite of certain inherent limitations like single user environment, non-availability of jukebox type facility and retrievals constrained by throughput of personal computers, databases on CD-ROM have very significant use potential in a developing country like India on the following considerations:

The telecommunication system is far from reliable. This constrains the development of online systems involving huge databases and query retrieval traffic. CD-ROM offers the possibility of installation of databases at user sites obviating the need for communication over long distances.

The CD-ROM databases come with retrieval package.

Use of CD-ROM requires inexpensive hardware such as CD drive. PC as a processor is also within the reach of many information centres.

Besides, the usual advantages of CD-ROM also apply to Indian environment.

The use of the technology is yet to be widespread. One reason could be the lack of appreciation of the power or it might be the hesitation to invest on a technological option which is yet to stabilize in the world market. Further, the drive and database which need to be imported attract payment of exorbitant customs duty. The most important reason would perhaps be that, apart from few databases like MEDLARS and NTIS, those presently available on CD-ROM do not have definite user clientele in the country.

In order to promote utilization of this new technology NISSAT established a CD-ROM Information Centre at the National Aeronautical Laboratory (NAL) Bangalore in 1988. The Centre provides information on hardware and their suppliers, reference tools and databases coming on CD-ROM and technology trends, and guide Indian users. They are also running services on Library & Information Science Abstracts (LISA)

NISSAT had plans to establish more sectoral information centres in addition to the eight already existing. New activities would be in the form of database development rather than information centre development. For this purpose, "Tea agriculture, processing and packaging" has already been identified as a subject for action plan.

**Information Analysis and Data Centres**

Information analysis centres and data centres have been planned under NISSAT scheme for undertaking the task of acquiring, evaluating, integrating, condensing and analysing factual and numeric information in contrast to sectoral centre which is expected to provide mainly bibliographic support in response to a query.

The first data centre on Crystallography (NICRYS) was established at the Madras University. The centre obtains the global information on organic and organometallic compounds, complied and collated at Cambridge, on magntic tapes and generates services for the national community of users.

Plans are afoot to add databases on inorganic crystal, powder data, IR and NMR spectroscopy data to the activities of this centre. In this context it may be mentioned that, UGC has now started providing complementary support for this centre.

The Second National Information centre on Advanced Ceramics (NICAC) was established at the Central Glass and Ceramics Research Institute (CGCRI), Calcutta has been with the following main objectives:

— To prepare and maintain a computerised database on Superconducting Ceramics, High-tech Ceramics, Optical Materials, Ceramic composite etc.

— To establish linkages with data centres on ceramics and related subjects the world over.

— To generate and provide information services on the subject, etc.

**Table 2: NISSAT Hard Data Centres**

| | Subject | Location |
|---|---|---|
| i) | Crystallography (NICRYS) | Madras University |
| ii) | Advanced Ceramics (NICAC) | Central Glass & Ceramics Research Instt., Calcutta |
| iii) | Resource Centre on Software for bibliogrphic applications | Andhra University Visakhapatnam |

## National Union Catalogue of Scientific Serials in India (NUCSSI)

In view of the importance of the NUCSSI an in access tool to support various information programmes. NISSAT has incorporated a plan of action for updating and maintenance of NUCSSI database. The NUCSSI data will be converted into a database form so as to make it appropriate for on-line search. Production of secondary databases, namely holdings of libraries in specific regions, institutions, subject area etc. would be made available on floppies for use through PC/AT/XT. It is contemplated to load NUCSSI database on INDONET, NICNET, etc. for online search & retrieval. Efforts are also being made to prepare catalogues on specific type of materials such as cover-to-cover translated periodicals and Indexing and abstracting periodicals.

## Online and SDI Services

In order to bring the information support services available to the scientists and technologists in India at par with those available to their counterparts in the developed countries NISSAT has taken up the establishment of online search facilities on permanent basis in the country. Five regional access centres (called NACII) have been established (Table 3).

**Table 3: NISSAT Access Facilities to International Datacentres**

| | Place | Institution |
|---|---|---|
| i) | New Delhi | Indian National Scientific Documentation Centre (INSDOC) |
| ii) | Pune | National Chemical Laboratory (NCL) |
| iii) | Bangalore | National Aeronautical Laboratory (NAL) |
| iv) | Madras | Central Leather Research Institute (CLRI) |
| v) | Calcutta | Indian Association for Cultivation of Science (IACS) |

The NACID centres operate on PSTN lines, local VSNL pad, and the international gateway facilities created by the VSNL. The hands-on practice and training for the operational staff of these NACIDs was held during Oct. 7-15, 1989 at Bangalore.

The service will be expensive from the users point of view. During the initial stages, a NACID will recover only the database and compute; costs from users: NISSAT would absorb costs of communication and hits. The Centres will also provide SDI services on such databases for which the demand may not be sufficient to justify their installation on Indian Networks.

Besides, NISSAT has taken up COMPENDEX (Engineering Index) database for rendering SDI and retrospective search at CMTI, Bangalore. Another project to start SDI services on management science literature is under consideration.

## Library Networking

NISSAT took the initiative for the development of metropolitan networks to ensure better utilisation of S&T information resources through resource sharing, to moderate functional load of information centre management and to take care of communication. CMC Limited, Calcutta has completed the feasibility study for CALIBNET. Divided in two phases; phase-I of the network would include Indian Association for Cultivation of Science (IACS). Central Glass & Ceramics Research Institute (CGCRI), Jadavpur University Central Library (JU), Indian Institute of Chemical Biology (IICB), Institute of Radio Physics & Electronics (IRPE), Journal Library of Calcutta University (at old Saha Institute location), Bose Institute (BI), Indian National Scientific Documentation Centre (INSDOC) Regional Centre Calcutta will act as the Network Services Centre and Regional Computer Centre would host the Union of databases.

On similar lines, the establishment of DELNET has been conceived for about 30 libraries in Delhi. At the instance of NISSAT, CMC Limited has submitted the draft feasibility report for DELNET. NISSAT also organised a computer familiarisation course for the representatives of participant organisations during December 15-28, 1988 and 4-14 Oct., 1989.

## Computer Based Bibliographic Information

The objective of modernisation of library and information services is to provide access to the world of knowledge at a reasonable cost and lead time. The application of computers and communication technologies are means to achieve this objective.

The need for computerisation is felt at all levels and in all activities. The nature of activities which demand use of computers may vary from automation of routine management function in libraries to information retrieval or analysis of global databases. Unfortunately, application of this tool is still not significant in India.

Realising this, NISSAT accorded high priority to all aspects of computer based bibliographic information processing.

NISSAT acquired a proven software package "CDS/ISIS—Micro—version 2.3" from UNESCO. Official distribution rights in India were also obtained for UNESCO.

CDS/ISIS was distributed to selected scientific libraries and information centres with adequate training support. The implementation of CDS/ISIS in these institutions was monitored regularly through exchange of information and user's group meetings. CDS/ISIS installations now number 243 (ver 1.0) and 202 (ver 2.3).

NISSAT has also acquired the VAX version of CDS/ISIS This package has been tested and distributed to five institutions. A project has been undertaken to develop the Devnagari version of CDS/ISIS. The version would enable to handle materials in local language like Hindi, Gujarati, Marathi etc.

In order to get a feedback on application of the package, a survery and two user's group meetings were organised.

NISSAT has adopted a library (Technology Bhavan) for conducting an experiment on a total automated system with turnkey concept (including data capture and entry, software development, documentation etc.). In his CDS/ISIS micro version is being used with PASCAL for interfacing programs.

NISSAT has also initiated action on the generation of "INDIMARC"—an implementation manual for UNESCO's Common Communication Format. This manual would aid the professionals to create machine readable bibliographic records, and achieve standardisation of MARC records generated or proposed to be generated by several participant organisations in NISSAT's intra-city networks.

Efforts are also underway to install oft-used international database on Indian networks. One such experiment with Chem Abstracts has been taken up with NIC.

## Manpower Development

With a view to improving upon and updating the skills of the information professionals on a continuing basis, NISSAT has regularly been organising short-term courses.

NISSAT provided support to the Documentation Research and Training Centre (DRTC), Bangalore to conduct three 6-week courses per year for 5 years on subjects like: Programming with library applications, Library automation, Computerised information retrieval, and Computerised vocabulary control design. They conducted two courses during 7 Aug.-15 Sept. 89 and 6 Nov.-15 Dec. 89.

The University of Poona conducts two 2-week courses per year on "Computer Applications to Library and Information Centres". The objective of the course is to give librarians an understanding of the principles of computer systems, the terminology and concepts embodied in the working of these principles; and give the participants practical knowledge of appropriate applications. The course consists of three modules, namely, Basics of Information Processing, Wordstar and dBase III and Specialised pakages for library. The third series of these courses were conducted 19-29 Sept. 89 and 17-28 Jan. 90. On special demand a third course was arranged (Feb. 15-25, 1990).

Similarly, INSDOC is scheduled to organize eight 4-week Computer Courses and two bibliometric courses by 1990. They conducted 6 courses during 1989.

Besides these regular arrangements, exclusive courses on CDS/ISIS, information handling, S&T translation, and information technology have been organised in Calcutta, Trivandrum, New Delhi, Vadodara, Nainital, Goa, Bangalore, Portblair and Hyderabad.

## Studies, Directories, Etc.

During the VII Plan NISSAT carried out a programme of promoting and supporting basic and applied research in information science. Several of these studies have been completed.

The special publications include:

(i) A report on the feasibility study on Automation and networking of science and technology libraries at Calcutta.

(ii) Marketing of Information products and services by libraries and information centres in India.

**International Activities**

The activities of ASTINFO (The Regional Network for the Exchange of Information and Experiences in Asia and the Pacific) of UNESCO are closely coordinated with those of NISSAT. The NISSAT Advisory Committee also functions as the National Advisory Committee of UNISIST and the National Advisory Group for ASTINFO. The activities under ASTINFO are:

(a) The regional node as well as the national node of APINMAP have been located at Publications and Information Directorate New Delhi. For preparation of a database on medicinal and aromatic plants, a HP 3000 system has been provided by ASTINFO. To coordinate the flow of inputs from various research laboratories in the country, a national committee has been constituted.

(b) Under the UNESCO Participation Programme five day course on Advanced CDS/ISIS micro version and microvax version was held in Bangalore during 8-12 January 1989. This was attended by 31 libraries and information professionals from Malaysia and India.

(c) Another UNESCO participation Programme deliberation on machine translation is under preparation.

(d) A UNESCO Workshop on Marketing of Information products and services and held in New Delhi (Nov. 22 to Dec. 1, 1990). The objective of the project is also to evolve standard course material on the subject for use by other countries in the region

(e) Another UNESCO-assisted National workshop on Common Communication Format was scheduled during 19 Feb.-2 March 1990 in New Delhi.

(f) Under a UNESCO programme, NISSAT provided a resource person for the conduct of workshop on Management Information System for Science and Technology at Mara Institute of Technology, Petaling Jaya, Malaysia in Sept. 1989.

**Newsletter**

In cooperation with the Society for Information Science (SIS) NISSAT has taken up the publication of NISSAT Newsletter during this financial year. This collaboration in an expression of the sincerity behind NISSAT's intention to mobilize the technical expertise available with professional bodies for implementation of the programme. The Newsletter covers wide ranging issues relating to information and the development of information networks and centres. Individuals and professional bodies are invited to contribute features and news items on new concepts and services events like seminars and training courses, new products like directories and information on status of information systems — at both national and international levels and trends in their development. All the four issues of this quarterly were published in time in the calendar year 1989. The present circulation is of the order of over 3000 institutions and individuals.

# Development of Pharmaceutical Industry — UNIDO Meet Discusses Network for Information Exchange

An interregional Meeting was organized by UNIDO in New Delhi from 19 to 22 March 1990 with the object of providing the participating countries information on the development potential of phermaceuticals and herbal medicines and promoting the setting up of national and regional networks for the exchange of technical information, training of manpower and enhancement of overall expertise. Fifty-six participants representing 18 countries besides UNIDO, UNESCO, and WHO attended this meeting.

Some of the main topics for discussion were:

* Industrial drug policy and its contribution to research and development for the development of local pharmaceutical industry — Indian experience.
* Medicinal plants for therapeutic use — Indian experience.
* Establishment and development of regional network for exchange of information, experience and training in pharmaceutical Industry.
* Factory-produced herbal medicine — Indian experience.
* Setting up of national data bases on medicinal plants and scheme to integrate information for regional networks.
* UNESCO's Activities — Information system with special reference to APINMAP.
* Technological and economic cooperation in selected areas of the pharmaceutical industry.

During a special session devoted to information exchange and experiences on medicinal plants, a presentation of UNESCO's role in the development of scientific and technical information system with special reference to Asian and Pacific Information Network (APINMAP) was made by Mr. John B. Rose, Programme Specialist, UNESCO, Paris. He noted that the success story of APINMAP should serve as a model for further development of international cooperation in this area. A detailed presentation on APINMAP describing its objectives, functions, structure and organization and its information services and products was made by Ms. A.H. Rillo, APINMAP Network Coordinator based at AIBA, Los Banos, Laguna, Philippines. The presentation was followed by a computer demonstration of a prototype of APINMAP factual database. Presently, the various components of the database are: plant names, ethnomedical uses, chemical constituents, biological activities and geographical distribution.

During this session, Mr. Y.R. Chadha, UNIDO Consultant and Publishing Director, B.I. Churchill Livingstone, New Delhi, made a presentation on infrastructural requirements for setting up a database on medicinal plants. Regional networking of national databases using APINMAP as a model was highlighted.

A number of conclusions and recommedations relating to pharmaceutical industry emerged following the discussions. A recommendation relating to information exchange and database management on medicinal plants stated that UNIDO in collaboration with UNESCO and WHO should assist developing countries in the establishment of national information databases on the pharmaceutical industry including plant-derived medicines and that subregional and regional data networks be established to collectively aid the developing countries. As far as medicinal plant pharmaceuticals are concerned, at the national level the information system should collect, manage, and disseminate information on medicinal and aromatic plants and plant-derived preparations taking account of the needs of all potential user communities including those involved in research and development, training, decision making, production and make such information and their experience available to other member states facing similar problems.

The Indian participants concerned more with aromatic and medicinal plants and network for information exchange included Mr. Y.R. Chadha, Mr. H.C. Jain (Technical Information Services Division, MAPIS, CSIR, New Delhi), Dr. Nitya Nand, Dr. B.N. Dhawan and Dr. S.S. Iyer (CDRI, Lucknow).

H.C. Jain
Ram D. Taneja

*Unesco General Conference*

# PGI Activities Commended: Clearinghouse, Databases, Training Highlights of Future Programmes

At the twenty-fifth session of the Unesco General Conference (Paris 17 Oct.-16 Nov. 1989), activities of the General Information Programme during 1988 and 1989 received wide commendation and support, both in regard to structure as well as content. Delegates emphasized the need to continue and stengthen activities related to standardization, national information policies and training. The importance of international cooperation in the field of technology as underlined. There was also need for setting up international and regional specialized networks within Unesco's field of competence, in particular in science and technology, besides creation of databases for decision makers.

The project to set up a Unesco clearinghouse was well received by the delegates. During 1990-91 priority is to be given to the preparation of a feasibility study on the clearinghouse and on online access to Unesco databases.

The usefulness of CDS/ISIS software as a tool for the establishment of modern information systems was recognized by most delegates. It was felt that the number of training programmes to promote its utilization in member states should be increased. In order to further interconnection of information systems, it was resolved to update CCF and reinforce efforts to build compatible national formats; to encourage the development of international standards for the description of archives. It was necessary to contribute to the systematic application of standards, mainly through the preparation and dissemination of teaching modules and the organization of training workshop and further to elaborate and implement a coherent plan for studies and guidelines covering libraries, information and archival services.

With regard to information services and networks in science and technology, the conference decided to organize training seminars on handling scientific and technological data and to organize a pilot information service for decision making and development planning.

In order to consolidate regional and international networks in science and technology, it was resolved to organize technical consultation meetings for three regional/subregional co-ordinating mechanisms (ASTINFO, CARSTIN, INFOLAC) to promote their development and strengthen national capabilities and to support four pilot projects aimed at developing higher levels of information processing.

To promote library cooperation and the flow of scientific literature to developing countries, it was resolved to support the establishment/strengthening of document delivery systems and the creation of a database on book donation programmes.

# Technical Communication: NISSAT-SIS Training Programme — Jodhpur 28-31 August 1990

The next training programme in Technical Communication in the series being conducted by Society for Information Science with the support of NISSAT (DSIR) will be held at the Central Arid Zone Research Institute, Jodhpur (Rajasthan) during August 28-31, 1990.

In the light of the very encouraging response to the earlier programmes and the feedback received from participants in industry and R&D establishments, the Course Content for the forthcoming programme has been enlarged to include topics such as handling the media, writing press handouts, creation of data bases, and consolidation of S&T information. Other topics of interest to scientists, technologists and engineers are in the realm of primary and secondary communication, linguistics, printing and production, oral presentation, etc.

Participation would be on first-come first-served basis because of limited seats available.

Course fee is Rs 600 for Members of SIS and Rs 750 for Non-Members. For details please write immediately to Shri S. Nagarajan, President or Shri P.C. Bose, Secretary, Society for Information Science, PID Building, Hillside Road, New Delhi 110012.

## ASTINFO-NLA-NISSAT Document Delivery Pilot Project

The problems of acquisition of hardcopy of documents are well known. Nationally, institutions like INSDOC, and NISSAT Sectoral Centres, and internationally, organizations like BLDSC provide documents on request. Recently Unesco in collaboration with the National Library of Australia, has undertaken a Pilot Project on Document Delivery. The national coordinating unit for India is NISSAT.

Through this ASTINFO-NLA-NISSAT pilot project, you can get a document for two Australian dollars irrespective of the size of document. Any of the following institutions may be contacted to obtain further details and to avail of the above services:

a) Shri P.C. Shah
Scientist-in-Charge, NICTAS
ATIRA
Ahmedabad-380 015

b) Dr. B.G. Kemshetti
Head, NICMAP
CMTI
Bangalore-560 022

c) Shri B. Basak
Librarian, IACS
Calcutta-700 032

d) Librarian
IICT
Hyderabad-500 007

e) Dr. S.S. Iyer
Scientist-in-Charge, NICDAP
CDRI
Lucknow-226 001

f) Shri M.N. Seetharaman
IIT
Madras-600 036

g) Shri J.P. Singh
DESIDOC
Delhi-110 054

h) Shri Chhotey Lal
Head, Library Services
IARI
New Delhi-110 012

i) Head Document Supply
INSDOC
New Delhi-110 067

j) Dr. K.G Tyagi
Director
NASSDOC, ICSSR
New Delhi-110 001

k) Shri R.S. Singh
Scientist-in-Charge
NICHEM
Pune-411 008

l) Shri J.C. Binwal
Librarian & Professor
NEHU
Shillong-793 014

## Technology for Mass Applications: Theme for ICCC 90

The Tenth International Conference on Computer Communication (ICCC) will be held in New Delhi during Nov. 4-8, 1990. To be inaugurated by the President of India, the Conference theme is 'Technology for Mass Applications'. The organizers' aim is to carry the benefits of information technology to the people at large.

The Conference is being hosted by the Department of Electronics and the Department of Telecommunications, Govt. of India.

The topics to be discussed will include computer communication for manufacturing, E-mail networks, Fibre optic LANS, ISDN and Social applications of computer communications. Concurrently with the conference will be held an exhibition showing the state-of-the-art developments in the area of computer and communications from the world over.

The registration for the conference is Rs 6000 till 30 Sept. and Rs 6750 thereafter.

Further details from the Organizing Secretary Ms Saroj Chowla, ICCC 90 Sectt, CMC Ltd., A-5 Ring Road, South Extension Part I, New Delhi 110049.

# NISSAT Supported Manpower Development Programmes
# Calendar of Events

| Subject/Dates | Programme Title | Venue | Organizer |
|---|---|---|---|
| **A A C R II** | | | |
| Aug 1990 | Workshop on Anglo-American Cataloguing Rules II | IIC, Delhi | (DELNET) |
| ** 1990 | — do — | Calcutta | (BLA) |
| ** | — do (series of courses) — | — | (ILA) |
| **Abstracting & Indexing** | | | |
| ** | Workshop on Abstracting & Indexing (series of courses) | ** | (IASLIC) |
| **Application of Computers in Library & Information activities** | | | |
| 25 Jun–29 Jun 1990 | Workshop on Application of Computers . . . | Jodhpur | (ILA) |
| 2 Jul–6 Jul 1990 | — do — | Kurukshetra | (ILA) |
| 9 Jul–13 Jul 1990 | — do — | Nasik | (ILA) |
| 9 Jul–13 Jul 1990 | Information Systems & CDS/ISIS [spl course for ILO Staff] | NISSAT, N. Delhi | (NISSAT) |
| 16 Jul–20 Jul 1990 | Workshop on Application of Computers . . . | ** Visakhapatnam | (ILA) |
| 20 Aug–14 Sep 1990 | Computer Applications in Libraries and use of CDS/ISIS [ Intro level] | Univ Pune, Poona | Univ Pune |
| Aug 1990 | Workshop on Application of Computers . . . | Rewa | (ILA) |
| ** | | Tiruchirapally | (ILA) |
| ** | — do — | Jaipur/Tirupati | (ILA) |
| ** | Workshop on CDS/ISIS (4 courses) | [Any 4 from Imphal Guwahati, Agartala, Berhampur, Cuttack, Rourkela, Ranchi, Jamshedpur, Mangalore, Calicut, Nagpur, Delhi] | (ILA) |
| Oct 1990 | Seminar on Computerization in Government Library & Information Centres | Shimla | (AGLIS) |
| Jan–Feb 1991 | Advanced course on CDS/ISIS | INSDOC, Delhi | (INSDOC) |
| Jan 14–18, 1991 | Use of Computer for non/semi Professional Staff in Libraries | Pondicherry | (AGLIS) |
| Jan 1991 | 2nd Course on Computer Applications . . . [ Intro. level ] | Univ Pune, Poona | Univ Pune |
| ** | Computer Applications in Library & Information Science | Calcutta | (BLA) |
| Feb–Mar 1991 | Short term course on Computer Applications in Library & Inf. Centres | DRTC, Bangalore | (DRTC) |

**To be announced.

### Bibliometrics

| | | | |
|---|---|---|---|
| 22 Oct–27 Oct 1990 | Course on Bibliometrics | INSDOC, N. Delhi | (INSDOC) |

### Career Prospects in Government and Information Centres

| | | | |
|---|---|---|---|
| 2–3 Jul 1990 | Seminar on Career Prospects in Government Libraries & Information Centres | Delhi | (AGLIS, ILA and IASLIC) |

### CDS/ISIS

| | | | |
|---|---|---|---|
| 18–29 Jun 1990 | Workshop on CDS/ISIS (Advanced) | IIS, Madras | (IIS) |
| Jul–Aug 1990 | — do — | DRTC, Bangalore | (DRTC) |
| 9 Jul–3 Aug 1990 | -- do — | INSDOC, N. Delhi | (INSDOC) |
| 20 Aug–14 Sep 1990 | CDS/ISIS for beginners | INSDOC, N. Delhi | (INSDOC) |
| Oct 1990 | Course on CDS/ISIS | Shimla | (AGLIS) |

### Common Communication Format

| | | | |
|---|---|---|---|
| ** | Workshop on Common Communication Format (series of courses) | ** | (ILA) |

### Computer Communication , LAN, etc.

| | | | |
|---|---|---|---|
| ** | Training Courses at Introductory level Computer Communications, LAN and Networking [series of courses] | ** | (AGLIS) |

### Consolidation of Information

| | | | |
|---|---|---|---|
| ** | Information Analysis & Consolidation | Delhi<br>Bombay | (IASLIC)<br>(IASLIC) |
| ** | Workshop on Information Consolidation | Calcutta | (BLA) |

### Expert Systems

| | | | |
|---|---|---|---|
| Jan/Feb 1991 | Seminar on the use of Expert Systems in Studies in S & T | Delhi | (SMAC) |

### Information Technology

| | | | |
|---|---|---|---|
| Feb 1991 | Course on Information Technology [ 2 weeks ] | INSDOC, N. Delhi | (INSDOC) |

### Machine Translation

| | | | |
|---|---|---|---|
| 17–22 Sep 1990 | Regional Workshop on machine Translation | NISTADS, N. Delhi | (NISSAT) |

**To be announced.

### Marketing of Library and Information Products & Services

| | | | |
|---|---|---|---|
| 11–15 Mar 1991 | Marketing of Library & Information Products & Services | Nagpur | (AGLIS) |
| ** | Workshop on Marketing of Information Products & Services [series of workshops] | | (BLA, IASLIC and AGLIS) |

### Micrographics

| | | | |
|---|---|---|---|
| July 1990 | Seminar on Legality and Copyright of Microforms | ** | (MCI) |
| Nov 1990 | National Seminar on Micrographics for National Development | ** | (MCI) |
| Jan/Feb 1991 | Regional Seminar on Micrographics | ** Bhopal | (MCI) |

### Retrospective Conversion

| | | | |
|---|---|---|---|
| 23–27 July 1990 | Training Course on Conversion of Library Records into Computer Readable Format | ** Delhi | (AGLIS) |

### Technical Communication

| | | | |
|---|---|---|---|
| 28–31 Aug 1990 | Training Course on Technical Communication | Jodhpur | (SIS) |

### Contact Addresses

AGLIS
The Secretary
AGLIS
Care DESIDOC
Metcalfe House
Delhi 110 054

IASLIC
Indian Association of Special Libraries & Inf Centres
P 291 CIT Scheme No. 6 M
Kankurgachi
Calcutta 700 054

IIS
Prof S. Parthasarathy
Hony Director
Instt Information Science
25 Peyalwar Koil Street
Madras 600 005

INSDOC
Shri B.K. Sen
INSDOC
14 Sansanwal Marg
Spl Institutional Area
Satsang Vihar Marg
New Delhi 110 067

BLA
The Bengal Library Association
P 134 CIT Scheme 52
Calcutta 700 014

ILA
Indian Library Association
A 40-41 Flat No. 201
Ansal Building
Dr Mukherjee Nagar
Delhi 110 009

MCI
Micrographic Congress India
Care Nehru Memorial Library
Teen Murti House
New Delhi 110 011

NISSAT
The Joint Adviser
NISSAT
Dept Scientific & Ind Research
Technology Bhavan
New Mehrauli Road
New Delhi 110 016

**To be announced.

|  |  |  |  |
|---|---|---|---|
| Pune | Prof S. C. Mahajan<br>Deptt Library & Inf Science<br>Jaykar Library Univ Pune<br>Pune - 411 007 | DRTC | Prof G. Bhattacharya<br>DRTC/ISI<br>8th Mile, Mysore Road<br>Bangalore 560 059 |
| SMAC | Dr A. Ghosal,<br>Soc Management Science<br>and Applied Cybernetics<br>CSIR Complex NPL Campus<br>New Delhi 110 012 | SIS | The Secretary<br>Society for Information Science<br>C/o PID Bldg., Hillside Road<br>New Delhi 110 012 |

## UNIDO Reference Guide for Developing Countries

This new UNIDO publication presents in a systematic way the factors that developing countries shoul consider when deciding to introduce industrial automation technologies in the production processes, mainly in the capital goods industries.

With the advent of the new technology associated with CAD/CAM, the performances of the small and medium engineering industries in many developing countries have been remarkably enhanced since early 1980s. In developing countries, small- and medium-scale enterprises have become aware of their technological deficiencies in turning out competitive products with respect to product design, cost and delivery dates.

The UNIDO publication presents three main topics, covering:

- The technological aspects of CAD/CAM with a description of the most advanced computer-aided design (CAD) and computer-aided manufacturing (CAM) technologies, explaining hardware, software and systems including work stations, displays plotters, computers, data bases and networks;
- Evaluation of available CAD/CAM systems through a detailed and clear explanation of how to compare systems and suppliers, the ramifications of purchasing turnkey systems, how to determine CAD/CAM needs and how to prepare a financial justification;
- Management approach for implementation of CAD/CAM systems, with indications of the changes at organizational level, and applications in solid modelling, group technology, computer-aided process planning, artificial intelligence, and personal computers applications of CAD/CAM for the small metal-working industry The study finally presents a future outlook of CAD/CAM in the years to come.

This publication will be of interest to production engineers, managers and policy makers, and government officials involved in capital goods production.

Copies of *Planning and Programming the Introduction of CAD/CAM Systems* are available at a cost of $US25. These can be ordered by writing to: the Chief, Documents Unit, UNIDO, P.O. BOX 300, A-1400 Vienna, Austria.

# News and Events

## CDS/ISIS Workshop

An advanced users/experts meeting cum workshop on CDS/ISIS, was organised under the auspices of UNESCO/ NISSAT/NICMAP/CMTI Bangalore from 8 to 12 Jan. 1990. This is the first workshop of its kind organised in India. The 28 participants were users of CDS/ISIS including 2 from Malaysia. The objective of the workshop/meeting was to provide a forum for discussions with Mr. G. Del Bigio, Chief, Division of Software Development & Applications, UNESCO, Paris with emphasis on the special features of the new version, 2.3 and to provide solutions to the technical problems met by the users.

In his inaugural address, Mr. Murching, Director, CMTI emphasised the importance of information as a vital input to industries. He suggested the participants to share their experiences & exchange views in using the CDS/ISIS software package and make use of the expertise of Mr. G. Del Bigio.

In his keynote address, Mr. Del Bigio reviewed the development of CDS/ISIS package over the years, gave a brief resumé of training programs conducted all over the world and emphasised that CDS/ISIS is more than just a bibliographic information tool & indicated that the ISIS user population at present is about 5000.

## Natural Resources Data Management System

NRDMS, a multi-disciplinary and multi-agency project of the DST developed a computer based decision-support system capable of storing and analysing spatial (geo-referenced) data on natural resources in conjunction with other relevant colateral data to facilitate development and management of natural resources at micro-level (district and below). Modelling capabilities, inbuilt into the system generated alternative planning scenarios. Launched in 1982, NRDMS was recognised as an S&T Mission Mode project during the VII Five Year Plan.

During the current phase of the project (1989-90), pilot scale data base centres were set up in 10 selected districts located in different geo-environments to gain an in-depth understanding of the availability of data, data flow structures and requirements of data for planning in a variety of settings. With the help of local authorities, a few application projects were identified to determine the efficacy of the approach in tackling real-life problems of decision making, such as soil salinity, water logging, ground water budgeting, land evaluation, land slides, drought mitigation and rural development.

Development of decision support modules for scenario building, facility location, strategies for appropriate development and allocation/distribution of resources are in progress. Software packages for optimal allocation and monitoring of resources in some of the important sectors covered under the Minimum Needs Programme e.g. rural water supply, health and education facilities and planning of road networks have been completed. These modules were tested in the field by the district authorities. Notable progress was made in the development of an indigenous GIS (Geographic Information System) package. Modules for digitization, error check, overlay, print and display were tested. Simultaneously, the various image processing functions for data encoding, enhancement and classification were programmed. GIS was interfaced with the image processing modules to develop an integrated package for resource management.

NRDMS is founded on the principles of spatial data management and multi-disciplinary database forms its core. The spatial features of NRDMS which make it distinct from the other information systems are:

- it accepts data from different sources including remote sensing (satellite/aerial) products;
- it is capable of integrating spatial, sectoral and target group planning; and
- it is oriented towards capturing the specificity of the areas to help resolve area-specific problems.

NRDMS helps in —

- inter-relating different data sets,
- easy upgradation of data,
- minimising redundancy in data collections,
- improving data consistency, and
- efficient retrieval of data in the desired format i.e. tabuler, reports, thematic maps, etc.

NRDMS was implemented with the help of a number of operational, R&D and academic institutions. The involvement of academia has helped in continually updating the methodology. The use and application of microwave remote sensing was recently inducted into the project. Synthetic Aperture Radar data secured over Nicobar Islands is being used to supplement the conventional database.

Training-cum-demonstration form an important part of NRDMS activities. Linkages were established with NICNET, NNRMS, Technology Missions and user Ministries to optimise the use of available resources and to provide a sound utility bias to the project.

## NICRYS/CSD-ON-INDONET

This innovative scheme, being implemented on the CMC network, was demonstrated at the XXI National Seminar on Crystallography at Bhabha Atomic Research Centre Bombay, at the National Codata Conference — 1990 at University of Poona, Pune and at the National Symposium on Biophysics, Saha Institute of Nuclear Physics, Calcutta. A total of about 150 researchers attended the demonstrations.

Response to this scheme is slowly picking up, with interest being evinced by about 15 institutions throughout the country. They will soon be informed about procedures, modalities, etc. Others who wish to get hooked on to NICRYS/CSD-ON-INDONET should contact NICRYS office or the nearest CMC Office.

**Information Technology and Libraries — U.G.C. National Seminar**

A two-day national seminar on information technology & libraries was organized by the Department of Library & Information Science, Punjabi University, Patiala, during February, 1990. The Seminar was inaugurated by Prof. H.K. Man Mohan Singh, Vice-Chancellor, Punjabi University, Patiala. Speaking on the occasion, he said that information technologies with an infinitely superior potential to share and retrieve information and capability to transmit it instantly to near and remote areas have started what in professional idiom has come to be known as the Third Wave, following the first brought in by script and the second by printing.

Information technologies are providing new opportunities to libraries to expand their services and improve reader's access to literature. Libraries should redesign their internal systems to ensure better access to their collection within the library and without.

Shri S.C. Biswas (Director, Central Secretariat Library, New Delhi) said that information technologies — electronic and communication technologies have not been developed keeping libraries in mind. However, these have been adopted for libraries. The arrival of modern telephones, global television computers, satellite communication, fax machines have shown that no government would be able to totally control the flow of information and news to the outside world. He was of the strong opinion that there should be training courses for the faculty in view of the new Information technology.

Prof. P.B. Mangla (Vice-President, IFLA) in his presidential address observed that fifty two percent of the professionals in USA are engaged in information work. Teachers have an important role to play in the development of manpower for the library. They should have a curiosity of the new information technologies like computers. micrographics and Communication technologies.

Twenty two papers were presented at four technical sessions: Information Technology and University Libaries; Information Technology and Library and Information Science Education; Information Technology: Problems & Prospects and Information Technology, information centres and information tools. The sessions were chaired by Prof. T. Viswanathan (Director, INSDOC, New Delhi), Prof. Hussain Khan (Aligarh Muslim University, Aligarh), Prof. R.G. Prashar (Sagar University, Sagar) and Shri P.N. Sharma (TCRDC, Patiala). The Reporters for the Seminar were: Sarvashri M.P. Satija, Kuldip Chand, S.B. Ghosh, Arup Roy Choudhri, H.R. Katyal & Prof. H.R. Chopra.

**Technology Information System**

TIFACLINE is a nationally networked computerised and interactive technology information system aimed at providing information in several technology areas in a standard format and software. It is envisaged as a multi-user system, and as a source of value-added information for Indian technology.

Mechanisms for creation of TIFACLINE databases have presently been instituted at the following organisations:

Department of Electronics
Technology Development and Information Company of India
Materials Research Society of India at Defence Metallurgical Research Laboratory
Confederation of Engineering Industries
Centre for Development of Telematics
National Aeronautical Laboratory
Tata Energy Research Institute
Steel Authority of India
Bureau of Indian Standards
Central Food Technological Research Institute
National Informatics Centre.

During 1989-90, preparation of data bases for coal, sugar, etc., and related technologies was under progress. The Data Production Package (Software) for data producers, being worked-on by a software house, was nearly completed along with the User Manual. Detailed specifications for the main TIFACLINE Software for the host machines are now being drawn up for implementation.

More than 3,000 questionnaires were sent to directors and heads of government, public and private sector institutions to initiate the first phase of the TIFACLINE in-house database-Expertsbase. A preliminary database for EXPERT-BASE is now ready and is in the process of refinement.

A full-fledged marketing study was instituted to gauge the marked reactions to a service like TIFACLINE. This database will also eventually be made available online through TIFACLINE.

At present, a Pilot Project is under implementation. This phase of TIFACLINE is intended to be available for a demonstration in 1990, with a few hosts in Bangalore and Delhi connected through a section of the TIFACLINE system.

Hardware has been installed with data producers at the R&D Centre for Iron & Steel (SAIL), Ranchi, Tata Energy Research Institute, Bhabha Atomic Research Centre, Defence Metallurgical Research Laboratory and at the Bureau of Indian Standards (Manak Sandarbhika). Data was collected and arranged. TERI prepared its own classification system and created about a hundred records.

**National Management Information System**

The NMIS Scheme which was launched during the Seventh Five Year Plan became operational during 1988. An Advisory Committee set up under the Chairmanship of Secretary, DST, with members drawn from various S&T Departments/Agencies provided the overall guidance. Major achievements during the year 1989-90 are:

*Computerised Database* — Steps were initiated to create a database of Parliament Questions and Answers concerning DST, International Agreements in S&T Cooperation etc. A database on existing computerised S&T Information Systems was in progress. The NMIS created computerised database for —

- Nearly 4000 R&D projects and 400 sophisticated equipment funded by various S&T Departments/Agencies.
- Technologies from India, with about 3000 records.
- 1950 publications of all the Scientific Departments/Agencies.

*Manpower Development and Interaction with State S&T Councils* — Manpower development through hands on training in databases and supporting software was taken up both within and outside DST. Workshops on MIS-literacy and end-user computing were held in association with the State Committee on Science and Technology, Trivandrum and the Institute of Applied Manpower Research, New Delhi. Two more such Workshops were also planned in Bhopal and Jaipur. A user awareness seminar on online access to international databases in Geosciences and related areas was held in Bangalore in July 1989. About 220 persons were trained directly through the above mechanism.

*Dissemination of Information* — Ten different types of publications/information products were brought out by NMIS during the year. Notable among them were — Directory of Equipment funded through DST Schemes; a Guide Book on MIS-literacy and End-user computing; reprint of R&D Funding Schemes of Central Government Departments/Agencies with supplementary information; MIS alerts as short and crisp visuals reflecting the trends in R&D Funding (Extramural); Technologies from India etc. The computer based databases were loaded on the systems of various S&T Departments/ Agencies, State Councils on S&T; etc.

*Standardisation of Formats* — For the first time a common input format for R&D projects and a Front Sheet for publications of S&T Departments were brought out and accepted by all the S&T Departments/Agencies.

The NMIS continued to support TIPS, a project aided by UNDP as a pilot in creating a network for the exchange of technological information having commercial viability.

NMIS provided support to several activities related to MIS development, such as, the International Conference on Databases and Networks held in New Delhi in early 1989.

**INTIB Link-up with Commercial Databases**

The Industrial and Technological Information Bank of UNIDO (INTIB) has widened the services offered to members of its world network through agreements for access to two important commercial data bases.

This means that regional and national Focal Points will now be able to draw on the information resources of the Food Science and Technology Abstracts (FSTA) and the METADEX data bases. INTIB will receive the data bases on magnetic tape and transfer them to floppy disks, using ISIS software, to run on personal computers. In both cases, the owners have agreed to provide monthly updates of the data bases, free of charge, for a two-year trial period.

FSTA is the machine-readable version of the journal of the same title, published by the International Food Information Service in Frankfurt, Federal Republic of Germany, and Reading, United Kingdom. It contains abstracts on all fields of food science and technology, such as microbiology, toxicology and hygiene, economics and statistics, packaging, beverages and various categories of foodstuffs.

More than 1,800 periodicals are regularly scanned, as well as books, conference proceedings, reports, dissertations, standards, legislation and patents. Over 350,000 items are available in FSTA, and 1,700 references are added with each monthly update. The language of the data base is English, but it includes translations of publications in over 40 languages.

The Frankfurt Service was set up in 1968 by four organizations of international repute — CAB International in the United Kingdom, GID in the Federal Republic of Germany, IFT in the United States of America and PUDOC in the Netherlands.

The METADEX data base is the machine-readable equivalent of Metals Abstracts, which began in 1966, and is published by Materials Information. METADEX covers the alloys, intermetallic compounds and metallurgical systems of ferrous and non-ferrous metals, focusing on materials, properties, processes and products.

By early 1989, METADEX contained 845,000 records; 4,000 are added each month. Some 1,900 periodicals in English and other languages, as well as conference proceedings, reports, books and patents are scanned by Materials Information to feed METADEX and other data bases.

**MEDLINE — CDS/ISIS**

Since January 1990, INSERM (Institut national de la santé et de la recherche médicale) offers a Questel Plus-CDS/ISIS interface for the use of SDI MEDLINE-diskettes under the mini-micro CDS/ISIS software package.

MEDLINE, the major biomedical database with its five million references to journal articles published worldwide from 1971 onwards, is produced by the National Library of Medicine (Bethesda, USA) with INSERM's participation for French data.

In June 1987, MEDLINE was loaded on the Télésystémes Questel host in Valbonne (France), under the Questel Plus software. French keywords were added to the original English ones thus making MEDLINE an entirely bilingual database accessible with a bilingual software.

INSERM offers SDI MEDLINE-diskettes for those who wish to create in-house databases using MEDLINE references, without tiresome manual data entry and problems linked to downloading (necessary hardware and host connection, possible interference, good knowledge of user-host dialogue).

These SDI products are selections, provided on micro-computer diskettes, of bibliographic references with abstracts extracted on the basis of user-defined themes, from the 1,400 new references entered into the database every fifteen days. Annual subscription includes 24 bi-monthly updates.

Up to now, mini-micro CDS/ISIS users could not take advantage of the SDI MEDLINE-diskettes service. IMA (Information médicale automatisée), INSERM's Documentation Centre, now offers this possibility.

A MEDLINE interface program, developed using CDS/ ISIS integrated programming options and available free-of-charge (on a diskette), automatically carries out the following operations:

- converting MEDLINE data in ASCII format into the ISO-2709 format recognized by mini-micro CDS/ISIS; setting-up of a CDS/ISIS database structure accepting
- MEDLINE references after conversion, including selection of information to be indexed, indexing parameters and definition of MEDLINE's specific display formats.

The MEDLINE-CDS/ISIS interface program hence allows the import of references supplied on diskettes and their indexing.

Title, author, source and keyword fields may be searched.

Among available display formats the full MEDLINE format is the default for the CDS/ISIS-based in-house MEDLINE subset.

### ChIN: International Chemical Information Network

An International Chemical Information Network (ChIN) will be created in 1990, with the assistance of Unesco/PGI and in co-operation with UNIDO.

ChIN is planned as an international non-profit association of cooperating institutions and individuals, committed to international cooperation and assistance in development, whose main aim will be to launch and carry out activities to promote chemical information as an efficient means for national and international cooperation and development in the chemical sciences.

The preparatory phase which started in 1988 at the initiative of Unesco/PGI has led up to the formulation of a planned schedule of activities in 1990 for launching ChIN, together with a brochure on the proposed objectives, programme, organization and working procedures of the network. These documents have been sent to prospective members inviting them to submit their critical evaluation and suggestions for amendments as well as to join the network as full member.

The brochure is being widely circulated to promote interest in ChIN which is open to all institutions and individuals dealing with chemical information. It may be requested from the Interim ChIN Secretariat: *International Centre for Chemical Studies, Vegova 4, P.O. 1811, 61001 Ljublajana, Yugoslavia.*

### Now APINMAP Has 13 Members

Two new member countries have recently adhered to the Asia Pacific Information Network for Medicinal and Aromatic Plants (APINMAP): Indonesia and Malaysia. This brings the total number of members to 13, the other countries having joined the network since its inception are: Australia, People's Republic of China, India, Republic of Korea, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Thailand and the Socialist Republic of Vietnam.

### The Top Ten Programs

The top 10 programs, which represent nearly 70 percent of U.S. government's PC software purchases, form a list with few surprises. According to a ranking of programs compiled by GTSI, in December 1989, Word Perfect was the top seller, Lotus' 1-2-3, at number two, was the top spreadsheet, and dBase III and dBase IV the main data base management programs, at number three and number six, respectively. Harvard Graphics, a graphics program from Software Publishing Inc., was the fourth top-selling program.

All four are practically standards in federal offices, although Word Perfect does get some competition from Word Star (number five) and Ashton-Tate's word-processing entry, MultiMate II (number nine).

What's hot besides the top sellers? Try project management software, desktop publishing, forms management and "personal information managers," or PIMs.

### ASTINET — Arab Scientific and Technical Information Network

Representatives from national and regional scientific and academic institutions met in Bloudan, Syria, from 9 to 16 September 1989 to discuss the establishment of ASTINET, a sectorial network to be created within the framework of ARISNET (Arab Regional Information System Network), including Arab academic and scientific institutions.

After having taken note of the state-of-the-art report made by a group of experts, the participants agreed to the launching of ASTINET which will be composed of three subnetworks, namely: MAGHREBNET, MECHREKNET and GULFNET.

A provisional Steering Committee was set up to promote ASTINET, and a General Assembly is planned for the end of 1990.

Further information from: SC/IIP, Unesco, Paris.

### Science and Technology Policy Asian Network

The Centre for Technology and Social Change, based in Wollongong, Australia, has started the new Science and Technology Policy Asian Network (STEPAN) to link science planners in the region.

STEPAN has been established under the auspices of Unesco to support a more effective application of science and technology to planned development throughout Asia. It will operate through national focal points designated by governments and will integrate senior government policy makers and researchers.

Present member countries of STEPAN include Australia, Bangladesh, People's Republic of China, India, Indonesia, Republic of Korea, Malaysia, Maldives, Nepal, New Zealand, Pakistan, Philippines, Sri Lanka, and Vietnam.

Three programme areas have been identified for immediate action: development of human resources, development of targeted information and indicator systems; development of more effective management of R&D and linkage between R&D and the productive sector.

### Software Packages for Structural Analysis, Design and Drafting

The Structural Engineering Research Centre (SERC), Madras, has been developing computer software for structural analysis, design, and optimization for the last several years. As part of this work, it has developed special purpose application-oriented programs for structures and strucutral elements such as frames, grids, shells, columns, beams, and slabs. Written in user-friendly interactive mode, these programs enable the designers to solve their design problems using even small computers which are now available with many design offices and consultants in the country. The demand for these programs has been quite encouraging.

SERC, Madras, has brought out a booklet which lists all the salient features of these 13 programs, including terms for licensing.

The booklet (pp. 26) can be had from the Director, SERC, Madras 600113.

**Coordinating Unit Created for Unesco Clearinghouse**

The Unesco General Conference has allocated a sum of about one million dollars for the creation of a Clearinghouse within the Unesco Secretariat. This transverse programme for 1990-1991 biennium is divided into three sub-programmes:

- Strengthening the clearinghouse function
- Strengthening the Organization's library and archives services
- Development and dissemination of software (CDS/ISIS and IDAMS).

The revised budget for the first sub-programme amounts to US$ 265,500. The second and third sub-programmes represent a continuation of ongoing activities.

A Clearinghouse Coordination Unit was therefore created in January 1990 and is headed by Ms Denise Pélissier, formerly of CNRS.

The main objectives of the Coordinating Unit will be:

- Preparation of a directory of available databases within Unesco
- Harmonization of the information-handing procedures used within Unesco
- Conducting a feasibility study for the establishment of a Clearinghouse at Unesco.

A directory of Unesco database will be published at the end of 1990. It will specify for each database the kind of information it contains, its geographic coverage, size, time-span of coverage and updating frequency. Unesco's databases are being developed by the various programme sectors (Education, Science, Social Science, Culture and Communication) as well as by central services such as the Library and the Statistical Office. There are now approximately 30 databases — mainly bibliographic, referral and numerical. These database were mainly set up to produce printed publications (bibliographic bulletins, directories, etc.) but are gradually being made available in other ways.

In parallel, the harmonization of the information-handling procedures has begun. Special attention will be paid to the numerous referral databases which use different data formats. Plans exist for introducing a common format, possibly based on an extension of the CCF. Better dissemination and use of information contained in Unesco's databases will be studied in the light of the availability of new technologies (e.g. optical media and online access).

The feasibility study on the establishment of the Unesco Clearinghouse will consist of a survey of the various categories of users in Member States and their needs for services, a proposal for the organization structure of the Clearinghouse including human and financial resources, and a ten-year development plan.

The study will be discussed and decided upon by the General Conference at its twenty-sixth session in autumn 1991.

**Macintosh-based Document Storage and Retrieval System**

Micro Dynamics has introduced an Apple Macintosh-based document imaging system that can archive almost any type of electronic or hardcopy documents — whether text, graphics, or image — as well as application or data files on high capacity optical disks. The Micro Dynamics MARS (TM) Series 1000, 3000, and 5000 are the archive systems capable of automatically searching for and retrieving documents by word or phrase. The entire series uses Macintosh computers as workstations and file servers, WORM optical disk storage, a document scanner, and either Apple Talk or Ethernet networking. The 1000 series can accommodate up to 10 users; the 3000 series up to 20 users; and the 5000 series up to 100 users.

**Bibliographic Information Development : UK Seminar**

A three-week course for professional library and information services personnel from developing countries is being launched on 28 August 1990 by Institute of Development Studies at the University of Sussex.

The course is intended to help strengthen library/bibliographic information science in developing countries and to assist in improving services and systems in relation to user needs. It is aimed at giving practical training on information systems for libraries based primarily on mini-micro CDS/ISIS with demonstrations of other systems for comparative purposes.

Sessions will be organized around the following topics information problems and solutions, information processing use of mini-micro CDS/ISIS, information dissemination, use of computer based systems and library management.

Participants should be proficient in English.

All IDS study seminars and study courses are residential and single accommodation only is provided.

Further information on IDS courses is available from: *the Chairman, Teaching Area Institute of Development Studies at the University of Sussex, Falmer, Brighton BNI 9RE, U.K.*

**CD-ROM Products Offered**

CD-ROM products and services like inhouse development system for preparation of data to distribution on CD-ROM discs and premastering to mastering of data are now offered by ABI Books Private Ltd, New Delhi. Besides consultancy for a turn-key set up and implementation of CD-ROM based information retrieval system are also available. Some CD-ROM data bases are also supplied.

Inquiries may be addressed to CD Division, ABI Books Pvt. Ltd., B-6 Skipper Corner, 88 Nehru Place, New Delhi 110019.

**Bibliographic Database of CECRI Papers**

The Library and Information Sciences Division of the Central Electrochemical Research Institute, Karaikudi has brought out a compilation entitled "CECRI Research Output: A bibliographic database of papers 1953-89". The compendium/database contains references to about 2800 original and review papers published by the scientific staff of the Institute.

The subject matter is arranged under 9 divisions, namely, (a) batteries and Fuel Cells (b) Corrosion Science and Engineering (c) Electrochemicals (d) Electrometallurgy (e) Electrochemical Materials Science (f) Electrodics, Electrobiology and Pollution Control (g) Industrial Metal Finishing (h) Electrochemical Instrumentation and (i) General. Under each division, the entries are arranged yearwise and under each year, alphabetically by authors. Author, source and year indexes are also provided at the end as various access points. An analysis part of these references is also appended.

The database has been created using dBase III plus and necessary search software has been developed and used for getting the output in the desired format. Analysis part is taken using Lotus 1-2-3.

Further information can be had from the Director, Central Electrochemical Research Institute, Karaikudi-623 006

**CFTRI Technology Update Service**

CFTRI has just launched a package of escort services under the above title to guide entrepreneurs involved in the develoment of food processing industry in the country. The package comprises preparation of technology profile reports, agro-resource studies reports on export markets for specific products, preparation of special reports based on literature survey, international price statistics, conceptual reports for new ventures and diversification, specific technology assessment report, project evaluation for financial institutions, preparation of state-of-art reports, CFTRI publications, etc.

In addition to these services, analytical quality testing services, renting out pilot plant facilities and use of highly sophisticated equipment, not available elsewhere, and special training programmes are being arranged in all the areas of food science and technology on priority basis at affordable rates. Small scale industries are offered special concessions and facilities.

Interested parties are invited to register with the Institute and obtain further details from the Chairman, Technology Application Division, CFTRI, Mysore-570 013.

**Conference on Management of Data**

Data management techniques have acquired increasing significance in the wake of unprecedented advances made in this field in recent years. The COMAD series of conferences are organised to discuss the emerging trends and to impart further fillip to developments in design strategies, evaluation criteria and maintenance of computer-based information systems. These conferences serve as a forum for interaction between R&D personnel, data-base administrators and end users and facilitate solutions to diverse real life problems of data management. In this sense, the COMAD conferences are inter-disciplinary in nature and provide a meeting ground for professionals in this field.

Covering a wide range of issues, the conferences place special emphasis on original work connected with evolving techniques in databases as well as requirements formulation and systems evaluation of information systems.

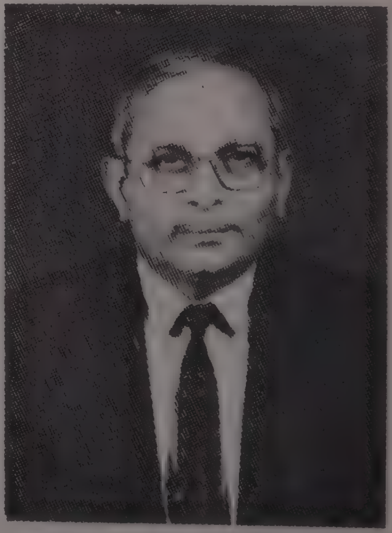
This call is for papers reporting original work and technical innovation for inclusion in the proceedings of COMAD 90. All papers shall be refereed and selected papers shall be published in the conference proceedings. Papers are invited on the following topics:

- Centralized and distributed database management
- Semantic models
- Knowledge base management
- Deductive databases
- Low-quality information: handling inexact, incomplete and uncertain information
- Object-oriented databases
- Information systems methodologies for whole life cycle
- Evaluation of information systems
- Specialized databases like image and geographical databases
- CASE tools for computer assisted data design

Papers in triplicate neatly typed in English should be sent to Shri Naveen Prakash, Department of Computer Science & Engineering, Indian Institute of Technology, Kanpur-208016.

The last date for receipt of papers is July 15, 1990 and for revised camera ready copies, Sept. 30, 1990.

**Doctorate for DESIDOC Director**



For his thesis on 'Design of an online bibliographic information network for a multi-unit R&D organization', Shri S.S. Murthy, Director, Defence Scientific Information & Documentation Centre, Delhi, has been awarded PhD degree by the Gulbarga University, Gulbarga.

The thesis examines the different types of networks — their topology, functions and services, advantages and disadvantages, viability in different situations, and so on. The design considerations of networks are covered and a model of an online bibliographic information network is presented along with its implementation aspects. Trends in on-line networks—both national and international—are presented.

R.N.-34608/78
RNI New Delhi

Printed at Natraj Printers, 80-F, Kamla Nagar, Delhi-11000

-14

15 NOV [illegible]
S.P.R.P.L. [illegible]

ISSN 0970-0188
JULY-SEPT 1990

90/3

# NISSAT

NEWSLETTER

rly Organ of National Information
System for Science & Technology
Department of Socientifc &
Industrial Research, New Delhi

NISSAT
NEWSLETTER

Vol. 9 No. 3 July-Sept. 1990

**Editorial Committee**

Dr. A. Lahiri
Jt. Adviser (NISSAT)
Department of Scientific & Industrial Research
New Delhi-110016

(Smt) S. Ravindran
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri B.G. Sunder Singh
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri S. Nagarajan
Society for Information Science
c/o PID, New Delhi-110012.

Shri P.C. Bose, Secretary,
Society for Information Science
c/o ARIC, New Delhi-110012.

Shri R.N. Sharma
Society for Information Science
c/o PID, New Delhi-110012.

**Editor: Ram D. Taneja**

**Editorial Office:** S-371, Greater Kailash-1,
New Delhi-110048.

© 1990 DSIR, New Delhi.

Published by the Society for Information Science on behalf of National Information System for Science & Technology (NISSAT),
DSIR, Government of India,
Technology Bhawan,
New Delhi-110016.

**NISSAT Newsletter**, published quarterly, is the official organ of NISSAT, and is aimed at disseminating information concerning programmes, activities and achievements of NISSAT as also of the various centres functioning under it. Additionally, it attempts to project major developments in the field of information science at national and international levels.

Communications concerning the Newsletter may be addressed to Dr. A. Lahiri, Jt. Adviser (NISSAT), Department of Scientific & Industrial Research, Government of India, Technology Bhawan, New Mehrauli Road, New Delhi-110016. Material published in the Newsletter can be reproduced with due acknowledgement to the source.

**Cover Design: N.N. Sethi, Associated Artists, New Delhi-110001.**

# Time to Brace Up

Professional bodies help bring together workers in a discipline to participate in activities like seminars, training courses, publication of newsletters and scholarly journals, etc. and thereby further the cause of the discipline. Flexibility of operations, freedom of expression and distance from institutional routine provide an ideal environment where professionals can flourish individually and as a community.

In the field of information, activities of professional bodies did not go much beyond organization of annual conferences. Now with support offered by different sources, larger ones like the ILA, IASLIC, SIS and AGLIS, and city-based associations like the DLA and LUSLIC organize training courses, prepare directories and so on.

However, these societies have not yet nucleated any activity that gives them a regular flow of income; they subsist on membership fees and proceeds from the sale of publications. Though they could mobilize funds through activity specific grant-in-aid, the resources may prove far too low even to set up a regular office.

Even now, except for a few like the IASLIC, ILA, and DLA none have regular contact addresses. They change with the location of office bearers after every election. Lack of financial strength constrains holding of meetings of the executive committees — no wonder that the activities are not adequately planned in advance. The intensity of activities depends largely upon the dynamism of office bearers especially the President and the General Secretary. The members are either not interested, or the office bearers do not solicit their participation. With such loose management framework, a body can function only if there is some institutional back up — the spurt in AGLIS activities in the recent past is a case in point. It is indeed disappointing also to find that memebrs are more active than necessary in the election of office bearers; their interests soon slacken when they are called upon to do constructive developmental work.

Proliferation of professional bodies, almost each one with its own newsletter and annual conference is another problem. Government programmes like the NISSAT have limited funds, and spreading of this fund too thinly, may not yield any tangible results. It was hoped that under the JOCLAI banner some coordination would be effected, but it did not happen.

Against this background, should one expect that the professional bodies in the domain of information science in India can put up a good show in ventures like the 6ICML or IFLA General Conference? Can they organize manpower development programmes on a large scale or develop Indian databases for international consumption? The Government can promote and at best provide support, but it cannot and should not meddle with the very elements and the basic thread that ties up the elements to give a thrust to a cause.

# NISSAT

## NEWSLETTER

Vol. 9 No. 3 July-Sept. 1990

## CONTENTS

Time to Brace UP 1

Revised Pay Structure for Library Staff Announced 3

R & D Statistics 1988-89 Highlights 11

Rationalization of Periodicals Acquisition in S&T: Indian Effort 12

Technical Communication: Fourth Training Course, Jodhpur 14

Biotechnology Information System 17

UNESCO Databases 20

News and Events 22

CUMENTATION UNIT
NOV 1990
C. F. T. R. I., MYSORE

# Revised Pay Structure for Library Staff Announced

**The Ministry of Finance, Department of Expenditure (Implementation Cell) Government of India recently issued an Office Memorandum (OM). The OM embodies Government's decision on the recommendations made by a Review Committee set up by the Department of Culture in September 1987. The Committee undertook a review of the pay scales, qualifications and recruitment levels of responsibility of library staff under purview of the Central Government.**

**In view of the importance of the subject and direct involvement in it of most of our readers, we reproduce below the OM in its entirety for reference and record.**

F. No. 19(1)/IC/86
Government of India
Ministry of Finance
Department of Expenditure
(Implementation Cell)

New Delhi, the 24 July 1990

OFFICE MEMORANDUM

Subject: Report of the Review Committee on Library Staff under purview of Central Government.

The undersigned is directed to refer to the recommendations of Fourth Central Pay Commission contained in para 11.63 of the Report wherein it was suggested that a Committee may be constituted to undertake review of the pay scales, qualifications and recruitment levels of responsibility of the Library Staff. In pursuance of the above suggestion, a Review Committee was set up by the Department of Culture in September 1987.

2.1 After careful consideration of the recommendations made by this Committee and also keeping in view the overall policy, the Government have decided to introduce the pay structure for Library Staff as given in Table 1.

Table 1 Pay Structure for Library Staff

| Sl. No. | Designation | Existing pay scale (Rs.) | Revised pay scale (Rs.) | Remarks |
|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) |
| 1. | Junior Library Attendant | 750-940 | 750-940 | Direct entry Middle pass |
| 2. | Library Attendant | 775-1025 | 775-1025 | Promotional Grade |
| 3. | Senior Library Attendant | 800-1150 | 800-1150 | Promotional Grade |
| 4. | Library Clerk | 825-1200<br>950-1400<br>950-1500<br>975-1540<br>975-1660 | 950-1500 | Direct entry Matriculation |
| 5. | Library Information Assistant | 1200-1800<br>1200-2040<br>1320-2040<br>1350-2200<br>1400-2300<br>1400-2600 | 1400-2600 | Direct entry Graduate with Bachelor in Lib. Science/ Promotional Grade for Lib. Clerks |

| Sl. No. | Designation | Existing pay scale (Rs.) | Revised pay scale (Rs.) | Remarks |
|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) |
| 6. | Senior Library & Information Asstt. | 1640-2900<br>1600-2660 | 1640-2900 | Direct entry Post Graduate with Bachelor in Lib. Science/ Promotional Gr. for Lib. Information Asstt |
| 7. | Assistant Library & Information Officer | 2000-3200<br>2000-3500<br>2200-4000 | 2000-3500 | Promotion/ Direct Recruitment |
| 8. | Library & Information Officer | 3000-4500 | 3000-4500 | -do- |
| 9. | Senior Library & Information Officer | 3700-5000 | 3700-5000 | -do- |
| 10. | Principal Library & Information Officer/Director | 4500-5700 | 4500-5700 | -do- |
| 11. | | | 5900-6700 | -do- |
| 12. | | | 7300-7600 | -do- |

2.2 The recruitment qualifications both for the direct recruits and promotees for each grade of the Library Staff are indicated in Annexure I. All the Ministries and Departments are advised to modify the rules of recruitment for various posts obtaining in the Library under their control on these lines. It is not necessary that each Library will have all the grades, a Library may have one or more of these grades.

## 3. Placement of Existing Library Staff in the Revised Grades

3.1 The employees in the scales of pay indicated in column 3 of table under para 2.1 may be placed in the revised scales shown there against in column 4 provided the incumbent fulfils the recruitment qualifications as indicated in Annexure I to this O.M. In case existing incumbent does not fulfil the qualification as laid down in Annexure I, he will continue in the existing scale of pay on personal basis. However, as and when the post falls vacant, it will be filled up in the appropriate scale in accordance with the rules of recruitment.

3.2 The existing incumbents will also have an option to opt for the revised grade structure or continue in the existing scales of pay. Where an option is for the existing scale of pay, it will be on personal basis and in the event of vacancy the post will be filled up in the appropriate scales in accordance with the rules of recruitment. The employees in whose case the scales of pay have been revised may be desired to exercise an option to continue in the existing scale of pay or come over to the revised scale of pay within a period of three months from the date of issue of this order.

3.3 In the case of grades where the scales of pay have been revised and the existing incumbents are placed in revised scale, the pay in the revised scales may be fixed in terms of the provisions of Fundamental Rules 23 read with rule 22 (a) (ii).

## 4. Categorisation of the Libraries

4.1 After placement of the existing incumbent in the grade structure indicated in para 2 above, each administrative Ministry may initiate action to categorise the Libraries under their control in consultation with F.A. concerned based on the parameters indicated in Annexure II to this O.M. Based on the categorisation of the Libraries so determined, the designation and scale of pay or the Librarian.

Incharge of each category of Library may be adopted on the lines indicated below:

| Category | Post with Designation | Pay Scale (Rs.) |
|---|---|---|
| I | Library & Information Assistant | 1400-2600 |
| II | Asstt. Library & Information Officer | 2000-3500 |
| III | Library & Information Officer | 3000-4500 |
| IV | Director (Library & Information) | 4500-5700 |
| V | Director | 5900-6700 |

4.2. In case the existing incumbent (viz. Librarian Incharge) is in a lower scale of pay than the scale determined based on the categorisation, he may be considered for appointment in the higher scale provided he fulfils the recruitment qualifications laid down for that post in Annexure I to this O.M. subject to the provisions of para 4.3.

4.3 Where based on categorisation the post of the head of a Library gets upgraded by more than one grade, the post will be upgraded only by one step initially. Its upgradation to the appropriate higher grade may be reviewed after three years in consultation with Ministry of Finance.

5. The scale of pay for the post of Language Librarian irrespective of language, may be Rs. 2000-3500. The recruitment qualifications may be post-graduation, Bachelor of Library Science with three years experience as laid down for direct recruits in Annexure I for posts in this scale. The present incumbents who do not fulfil these qualifications may continue in the existing scales of pay. As and when the existing incumbents vacate their posts, these may be filled up in appropriate scales in accordance with recruitment rules.

6. All Ministries/Departments are requested to initiate action on priority basis and results of review reported to Implementation Cell, Department of Expenditure.

7. In their application to the employees of the Indian Audit & Accounts Department these orders issue in consultation with Comptroller and Auditor General of India.

Sd/
(V.B. SAXENA)
DIRECTOR

To

1. All Ministries/Departments of the Government of India etc. (as per standard list).
2. Copy to Ministry of Personnel, Public Grievances & Pensions (Department of Personnel & Training) with the request that they may frame model recruitement rules which can be adopted by Ministries/Departments as mentioned in para 2.2 above taking into account the qualifications prescribed for various library posts.

## Annexure I

| Sl. No. | Designation | Pay Scale (Rs.) | Qualification & Experience | |
|---|---|---|---|---|
| | | | Direct | Promotion |
| 1. | Junior Library Attendant | 750-940 | Middle pass | — |
| 2. | Library Attendant | 775-1025 | | Promotional Grade for Jr. Library Attendant |

## Annexure I (Contd.)

| Sl. No. | Designation | Pay Scale (Rs.) | Qualification & Experience | |
|---|---|---|---|---|
| | | | Direct | Promotion |
| 3. | Senior Library Attendant | 800-1150 | — | Promotional Grade for Library Attendant |
| 4. | Library Clerk | 950-1500 | Matriculation | — |
| 5. | Library & Information Assistant | 1400-2600 | B.A./B.Sc./B.Com. + B. Library Science | Promotional Grade for Library Clerks |
| 6. | Senior Library & Information Asstt. | 1640-2900 | M.A./M.Sc./M.Com. + B. Library Science | Promotional Grade for Library & Information Assistant |
| 7. | Asstt. Library & Information Officer | 2000-3500 | M.A./M.Sc./M.Com. + B. Lib. Science with 3 years experience | 3/8 years experience at Rs. 1640-2900/Rs. 1400-2600 pay scales. Masters degree essential for language/subject specialised posts. |
| 8. | Library & Information Officer | 3000-4500 | M.A./M.Sc./M.Com. + B. Lib. Science with 7 years experience | Qualifications same; 5/8 years experience at Rs. 2200-4000/Rs. 2000-3500 pay scales. |
| 9. | Senior Library & Information Officer | 3700-5000 | M. A./M.Sc./M.Com. + B. Lib. Science with 10 years experience | Qualifications same; 5 years experience at Rs. 3000-4500 pay scale. |
| 10. | Principal Library & Information Officer/Director | 4500-5700 | M.A./M.Sc./M.Com. + M. Lib. Science with 12 years experience | Qualifications same; 5/10 years experience at Rs. 3700-5000/Rs. 3000-4500 pay scales. |
| 11. | | 5900-6700 | M.A./M.Sc./M.Com. + M. Lib. Science with 15 years experience | Qualifications same; 5 years experience at Rs. 4500-5700 pay scale. |
| 12. | | 7300-7600 | Eminent Librarian/Scholar Ph.D/M. Lib. Science & Research Work, Publications, 20 years experience | |

## Annexure II

### Formula for Categorisation of the Libraries

For the purpose of categorisation of libraries, the primary variables such as collection, services, budget, publications, computer application, etc. have been taken into account. Each variable has been quantified and weighted as under:

### I Collection

| | Quantity | Point | Max. Points |
|---|---|---|---|
| 1. Total collection of books | 1–10000 | 1 | 10 |
| 2. Annual intake of books | 1–150 | 1 | 10 |
| 3. Titles of serials received annually (including newspapers and magazines) | 1–50 | 1 | 10 |
| 4. Non-book material (Manuscripts, Films, Photographs, Maps, Slides, audio records and tapes, video tapes/ Cassettes, Computer produced tapes, CD-ROM, microfilm/fiche, paintings, drawings, etc.) | 1–10000 | 1 | 10 |

*(Note: If there are number of copies of the same books, title etc., it can be taken into account maximum upto 5 as quantity.)*

### II Services

| | Quantity | Point | Max. Points |
|---|---|---|---|
| 5. Lending (Daily) | 1–50 | 1 | |
| 6. Inter-library-loan (Monthly) | 1–50 | 1 | |
| 7. Photocopying (Monthly) (plain papers, bromide prints, slides, microfilm/fiche) only photocopies of documents, etc. supplied to users to be taken into account | 100–10000 | 1 | 10 |
| 8. Reference queries | 1–50 | 1 | 5 |
| 9. Users attended in the library (Daily) | 1–50 | 1 | 5 |

| | Quantity | Point | Max. Points |
|---|---|---|---|
| 10. Indexing (Monthly) (indexing of periodical articles, proceedings, report as well as cumulative indexing projects) | 100–300 | 1 | |
| 11. Abstracting (Monthly) (preparation of abstracts of periodical articles, proceedings, reports, as well as extracting abstracts from secondary sources, filing, circulation and master copy preparation | 50–150 | 1 | |
| 12. Newspaper Clipping including index (Daily) | 10–50 | 1 | |
| 13. Selective Dissemination of Information (SDI) | 1–15 | 2 | |
| **III Budget** | | | |
| 14. Annual budget for resource material and equipment of library | 1–50000 | 1 | 10 |
| **IV Publications (with examples)** | | | |
| 15. Weekly/Fortnightly | 1 | 3 | |
| 16. Monthly/Quarterly | 1 | 2 | |
| 17. Half-yearly/Yearly | 1 | 1 | |
| **V Computer Application** | | | |
| 18. Computerisation of library activities | | 10* | |

---

*(Ordering and acquisition–1, Current material cataloguing–1, retrospective cataloguing–1, Serials control–1, Library statistics and MDP–1, SDI–2, Circulation–1, indexing, abstracting–1, DTP–1).

Weightage and ranking have been given to 18 major quantifiable variables in relation to their importance in a library. These variables have further been categorised as active and passive ones. The active variables have been kept open for gaining unlimited points whereas the passive variables have been restricted to a maximum limit as in the case of collection and publications respectively.

The nature, function and the scope of the Government libraries vary from library to library. There are libraries which simply cater to the day-to-day general needs of their clientele whereas, other function as a research and information unit caters to the needs of their clientele accordingly. In such a situation, the same set of fixed variables would not have been helpful. Each variable has been given a broad range, e.g., 1–150, 1–50, 1–1000 etc., to bring maximum flexibility within the range of parameters.

## 5.7 Categorisation of a Library

Government libraries have been grouped into six categories. Type I-V have been categorised on the basis of the variables, whereas category VI has been marked for the National Library, Calcutta.

## Table 2 Examples : Categorising of Libaries

| Sl No. | Variables | Category I | Point | Category II | Point | Category III | Point | Category IV | Point | Category V | Point |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Collection | 6845 | 1 | 200000 | 10 | 103006 | 10 | 321000 | 10 | 245000 | 10 |
| 2 | Annual intake of books | 266 | 2 | 1252 | 8 | 2609 | 10 | 6392 | 10 | 8500 | 10 |
| 3 | Titles of Serials received annually | 46 | 1 | 165 | 3 | 555 | 10 | 2032 | 10 | 2040 | 10 |
| 4. | Non book material | — |  | — |  | — |  | 42825 | 4 | 150000 | 10 |
| 5. | Lending (D) | 15 | 1 | 150 | 3 | 69 | 1 | 72 | 1 | 325 | 7 |
| 6. | Inter Library Loan (M) | — |  | 15 | 1 | — |  | 15 | 1 | 95 | 2 |
| 7 | Photocopies (M) | — |  | — |  | 4200 | 4 | 4200 | 4 | 30000 | 10 |
| 8. | Reference Queries (D) | 50 | 1 | 55 | 1 | 71 | 1 | 80 | 2 | 115 | 2 |
| 9. | Users Attended (D) | — |  | 50 | 1 | 53 | 1 | 45 | 1 | 150 | 3 |
| 10. | Indexing (M) | — |  | — |  | — |  | — |  | — |  |
| 11. | Abstracting (M) | — |  | — |  | — |  | — |  | — |  |
| 12 | News paper Clippings (D) | — |  | — |  | — |  | — |  | — |  |
| 13. | Selective Dissemination of Information | — |  | — |  | — |  | — |  | — |  |
| 14. | Budget | 30000 | 1 | 130000 | 3 | 2767000 | 10 | 850000 | 10 | 9852000 | 10 |
| 15. | Publications W/F | — |  | — |  | 1 | 3 | — |  | 1 | 3 |
| 16. | M/Q | — |  | — |  | 1 | 2 | 7 | 14 | 4 | 8 |
| 17. | HY/Y | — |  | — |  | — |  | 2 | 2 |  |  |
| 18. | Computer Application | — |  | — |  | — |  | — |  |  |  |
| Total Points |  |  | 7 |  | 30 |  | 52 |  | 69 |  | 85 |

Category of a library will be decided on the basis of the points it obtains. The minimum qualifying points for a library are five. The range of points for categorisation is as follows:

| | |
|---|---|
| Category I | 5–20 points |
| Category II | 21–40 points |
| Category III | 41–60 points |
| Category IV | 61–80 points |
| Category V | 81 and above points |
| Category VI | National Library, Calcutta |

Again, the range of points within a category has been kept wide enough to give maximum flexibility to allow growth and development activities of a particular library. Some examples have been provided (Table 2) to help in categorising a library based on the data supplied and evaluated.

Multiples of the maximum figure of each variable will carry one point e.g. 1–150 annual intake of books; multiples of 150 i.e., 300, 2 points; 450, 3 points, etc. However, for the purpose of calculation to the points will not be counted in fraction. They are being rounded off to the nearest figure. For example, a collection size of 1–1000 will be given 1 point; even when the collection reaches 14999, it will still be put within 1 point limit but 15000-24999 will be given 2 points. Further, for certain variables the maximum limit has been fixed. For example, annual budget of Rs. 5 lakhs will obtain 10 points. At the same time, annual budget of Rs. 10 lakhs will also obtain 10 points which is the maximum limit of the range.

Formal categorization of libraries may be undertaken after every 5 years from the date of initial fixation of category.

---

## Virus—How to Tell If Your Computer is Infected

Around 200 computer viruses are currently known to exist, and their symptoms vary greatly. However, 95 per cent of all "infections" are caused by 12 known viruses. The most common symptoms are:

- data loss
- slower than usual program load
- warnings, or unusual messages or characters on the screen
- unaccountable hardware malfunctions
- files disappear, or strange files appear
- memory and disk space drop markedly
- disk access is slower than normal
- unusual screen or printer activity
- drive lights come on without apparent reason
- changes in the size of executable files

This last symptom is a clue to the way in which the majority of viruses work: they attach themselves to *executable* files, such as those with the extensions EXE, COM, SYS, PRG, OVL, or BAT. If your executable files appear to be slightly larger than they should (most viruses add 800-2000 bytes), it probably means that they are infected.—LOGON (UNDP), April 1990.

# R & D Statistics 1988-89 Highlights*

- The national investment of R&D activities attained a level of Rs. 3471.81 crores during 1988-89. The figure for the year 1989-90 has been estimated to be Rs. 4003.79 crores.
- 1.00% of gross national product was devoted to R&D activities in the country during 1988-89.
- In the institutional sector about 12% of the total expenditure was spent on basic research, 35% on applied research, 32% on experimental development and the rest 21% on other supporting activities.
- About 92.5% of the expenditure incurred by government sources came from central government and rest 7.5% from the state governments. About 75% of the expenditure incurred by central government came from major scientific agencies like Atomic Energy, Space, CSIR, ICAR, etc. and the rest came from other central ministries/departments. Amongst the major scientific agencies, Defence Research and Development Organisation accounted for 27% of the expenditure.
- State sector spent Rs. 232.91 crores on R&D activities during 1988-89. About 98% of the R&D expenditure by the state sector was spent for the development of agriculture and allied areas. About 18.4% of total state sector R&D expenditure was by the State of Maharashtra.
- Rs. 725.11 crores was spent on R&D by industrial sector in 1988-89. The number of units involved were 895 in the private sector and 121 in the public/joint sector. The share of Industrial sector R&D in total national R&D was 20.9% during 1988-89.
- Industry spent 0.72% of their sales turnover on R&D in 1988-89. About Rs.129.70 crores of the total expenditure by the industrial sector was in the group of defence industries. Next to this was electricals & electronics with about Rs. 118.03 crores of total industrial sector R&D expenditure.
- As on 1-4-1988 nearly 2.68 lakh personnel were employed in the R&D institutions in the country including inhouse R&D units of public and private sector industries. Out of this 37% were performing R&D activities, 31% were performing auxiliary activities and rest 32% were providing administrative and other non-technical support. There were 4893 women directly engaged in R&D activities.
- 44.7% of the total personnel employed primarily for R&D work were from engineering and technology background, 28.7% were from natural sciences, 22.7%, were from agricultural sciences, 2.1% were from medical sciences and the rest 1.7% were from social sciences. 42.9% had post graduate or above qualifications, 26.6% had graduate degree and the rest 30.5% had diploma or other qualifications.
- There were 174 universities which include 142 universities, 22 deemed universities and 10 institutes of national importance during 1987-88. Pure science doctorates had a share of 73.2% of total 4010 S&T doctorates produced during 1986-87.
- Patents sealed in the year 1987-88 numbered 2104; out of this 588 were sealed by Indian citizens. This is a mere 28% of the total patents sealed. Maximum number of applications filed by Indians were from the Union Territory of Delhi (29.5%).
- In relation to population, stock of S&T personnel for India is not high as compared to that observed for developed countries. India has only 3.43 S&T personnel per thousand population. Only 0.22 S&T per thousand were employed in R&D.
- In the year 1970, developed countries accounted for 97.4% of the total expenditure for research and development in the world. This figure came down to 93.7% in 1980. Most of the developed countries devoted 2 to 3% of their GNP on R&D while India has spent 1% of GNP on R&D. India's per capita R&D expenditure was only a mere US $ 3.06 whereas this was between US $ 100 and US $ 400 for most of the developed countries.
- More than two third of total investment in research and development in the world was by countries in the continents of America and Europe during 1988-89.
- Plan allocation for S&T increased from Rs.142 crores in the fourth plan to Rs 4257 crores during the seventh plan. The share of S&T in the total public sector outlay was 2.4% during the 7th plan.

---

*Source: Research and Development Statistics, 1988-89, Department of Science & Technology, New Delhi, May 1990.

# Rationalization of Periodicals Acquisition in S&T: Indian Effort

It is common experience among library and information professionals that the cost of S&T periodicals increases at the rate of 15-25%, whereas the library budget in most institutions remains almost static. The net result is reduction in the acquisition of titles. On the other hand, our scientists and technologists are getting into newer areas. These activities naturally demand acquisition of a new set of periodicals.

Unfortunately, none of us could give sufficeint thought to rationalizing periodical acquisitions individually or collectively. Could one identify some of the avoidable overlaps? Could we exchange notes among the major institutions which hold major information resources and rationalise our acquisitions? Could we evolve a photocopy supply facility within a city through inter-library cooperation? Is it possible to workout a mechanism of circulation of expensive journals like secondary periodicals among institutions within a city? Would circulation of photocopies of contents page of select set of recent journals be desirable?

There are hosts of such questions. Much of the problems could be handled if the institutions located within a small geographic region like a city could get together and look for solutions in right earnest. In most cases, a formal mechanism to facilitate exchange of notes does not exist. On an experimental basis, a recent NISSAT initiative was aimed at bridging the gap in a few selected cities. A Consultative Committee in each city coordinated either by a NISSAT Sectoral Center or local library association was formed to look into the possibilities of rationalization of periodicals acquisition in metropolitan cities. The mechanism would attempt to bring several librarians in these cities together to discuss their acquisitions, especially renewal subscriptions of periodicals, and resource sharing possibilities. The exchange of notes would lead to rationalized acquisitions and savings to the institutions or the group of cooperating libraries. NISSAT had initially identified 9 cities and organisations/professional bodies to establish such fora. Work in some places could not start early yet the results so far have been quite encouraging as evident from the following:

## Status/Results of Consultative Meets

### Ahmedabad — ATIRA

ATIRA organized a one day seminar on 22 Sep 1989 attended by 30 Heads of the Library and Information Centres in Ahmedabad. Besides considering several aspects of cooperation and resource sharing, ATIRA itself discontinued 16 periodicals worth Rs. 57,500 in new subscriptions. The participants agreed to provide for documents through photocopies and inter-library loans.

### Bangalore — CMTI

The first meeting of the leading engineering organizations in Bangalore was held on Dec 14, 1988 at CMTI with 22 participants attending. A second meeting took place on 11 Sep 1989. Besides many observations, it was evident from the 1988 data that 48 periodicals currently received at CMTI were found duplicated in other libraries. While others will drop these subscriptions, CMTI would provide photocopies from these sources if required. CMTI may also get FAX facilities. Modalities for document delivery are being worked out. Decisions based on this effort would save around Rs. 1,50,000.

### Bombay — IIT

Word started late at IIT as the new Head, Library Services took over only recently. Presently, they are considering inhouse studies on core journals. IIT is considering a multi-criteria based rationalization of periodicals acqusition within their own institution.

### Hyderabad — IPE

The Consultative Committee Meeting was held at the IPE, Hyderabad on March 10, 1990 and was attended by 34 invited participants. The committee first considered the need for resource sharing, especially of industrial information. The committee decided to have a map of Industrial & economic projects; assessment of existing information systems and facilities; inter library loan and photocopy services.

### Lucknow — CDRI

The first Consultative Committee meeting was held at CDRI on 2 December 1988 and was attended by 16 members of LUSLIC. The committee suggested:

1. Identification of groups by subject areas
2. Identification of core periodicals in the subject areas
3. Model code of conduct for resource sharing
4. Display of periodicals in other libraries as well
5. Dropping 14 journals worth Rs. 1,50,000 in subscription

**Pune — NCL**

The Consultative Committee at Pune met on 24 Oct 1988. Data from 18 libraries on 2609 journals was collected. A combined list of current periodicals called Union Catalogue of Current Periodicals in Pune Science & Technology Libraries (PSTL) was prepared in machine readable form. All the participants agreed on photocopy services at their institutional rates, sharing, and bilateral cooperation. Activities in Delhi and Madras have not started yet. The representative from Calcutta was not present to report on the activities.

**Recommendations**

On behalf of DLA, New Delhi Shri H.C. Jain suggested that this work may be assigned to DELNET instead of Delhi Library Association. The committee agreed on this suggestion. Shri S. Subbarao (CLRI, Madras) agreed to take up the task immediately.

Considering the spin-off of the approach, the members present recommended that NISSAT should support the Consultative Mechanism for rationalization of periodical acquisitions in metropolitan cities on a continuing basis. Similar work may be taken up in other cities as indicated below:

Bhopal
Chandigarh
Mysore
Nagpur
Trivandrum
Visakhapatnam

Since the meeting of the Conveners of various consultative committees held on 24 April, 1990, the Delnet has taken up the problems of peridicals acquisition and held two meetings so far — the first one at JNU Library under the chairmanship of Mr V.B. Nanda and the second at the INSDOC under the chairmanship of Prof T. Viswanathan. An important aspect of this group is that they have mutually agreed to cooperate on the creation of a directory of current subscriptions for journals and secondary periodicals, and also the updation of NUCSSI. The two projects are NISSAT supported — one at the JNU library and NUCSSI at INSDOC. The movement is slowly gaining wider, voluntary participation of the library and information scientists and should now be able to spread to the other cities as well. NISSAT is getting in touch with institutions/associations in other cities to takeup this activity.

## S&T Information Systems and Services:

### Emerging Trends—Theme for SIS Convention, Trivandrum

The Tenth Annual Convention and Conference of the Society for Information Science will be held at Regional Research Laboratory (CSIR), Trivandrum during 17-19 January 1991.

The focal theme chosen for the Conference is "S&T Information Systems and Services: Emerging Trends".

A detailed announcement on the scope and technical sessions to be organized would be made soon. For further information contact Secretary, Society for Information Science C/o PID Bldg. (CSIR), Hillside Road, New Delhi 110 012.

# Technical Communication: Fourth Training Course, Jodhpur

"The course has been conducted very systemically. It was informative and useful but the duration is too snort; it should be run for at least one week....... More weightage should be given to technical writing and communication than to library science....... There is need for emphasis on standardization in technical communication with regard to reference citation, units of measurement, abbreviations, signs and symbols, etc.... More time should be allowed for tutorials and workshop sessions for writing reports, press releases and other exercises.... As it is, the programme is very tight.... Such courses should be conducted regularly, three or four times a year and on a zonal basis....... Role of communication in rural development may be included as part of the course."

This is a cross section of the views and suggestions contained in the feedback proforma received from the participants who attended the fourth training course in technical communication held at Central Arid Zone Research Institute (CAZRI), Jodhpur during 28-31 August 1990. The course was organized by the Society for Information Science in collaboration with NISSAT (Department of Scientific & Industrial Research, New Delhi). As many as 34 participants had registered for the course but due to disruption of rail and air traffic in some parts of the country, 27 of them were able to make it to Jodhpur. Their institutional affiliation is as follows: DRDO 9; ICAR 6; CSIR 4; Dept. of Atomic Energy 3; ICMR 1; and universities 4.

Warm Welcome by Shri R.N. Sharma Course Director

CENTRAL ARID ZONE RESEARCH INSTITUTE

Studded in a world of serene tranquility, CAZRI, the venue of the programme made an ideal setting for communication with Nature—and in Science.

Inaugural Address by Director CAZRI Dr. Venkateswarlu

Valedictory Address by Dr. I. Prakash Prof. of Eminence CAZRI

There was a wide scatter in terms of the participants' professional affiliations too. There were R&D scientists, information and library science professionals and public relations and liaison officers. The faculty comprised Sarvashri R.N. Sharma (former Senior Editor, CSIR), the Course Coordinator, Ram D. Taneja (formerly Chief Editor and Deputy Director General, Bureau of Indian Standards) Editor, NISSAT Newsletter, and P.C. Bose Secretary SIS and Head, ARIC (ICAR).

### Inauguration

The training course was inaugurated by Dr J. Venkateswarlu, Director CAZRI on 28 Aug. in the presence of Heads of Departments and senior scientists of CAZRI. Dr Venkateswarlu complimented the initiative taken by SIS and NISSAT (DSIR) to organize courses of this type for creating awareness among scientists and information professionals of the need for adopting standardized procedures in respect of various facets of information processing, storage, retrieval and communication. Earlier, Shri R.N. Sharma and Shri Ram D. Taneja elaborated on the objectives behind the programme. They emphasized the importance of effective communication of S&T information for healthy growth of science and technology.

Shri P.C. Bose in his remarks, briefly traced the genesis and growth of SIS, while highlighting its activities and programmes. He thanked the Director, CAZRI, and his colleagues, notably Dr Ishwar Prakash, Prof. of Eminence and Dr D.C. Ojha, Librarian, for the meticulous care and attention bestowed on the arrangements made for conducting the course.

### Course Content

The topics chosen for coverage embraced all major facets that are of concern to a heterogenous group. Thus, an even balance was attempted among the three main streams, namely, processing of information; storage and retrieval. A distinctive feature of the programme was the emphasis laid on newer developments in the field. Notable among the new topics covered were database creation; development of software; AGRIS Database; public relations for librarians; writing a press release; and handling the media.

For the benefit of the participants, a bound volume containing exhaustive advance notes on the lectures delivered by the faculty members was made available to them. This volume, besides helping them to comprehend the instruction imparted, would be of lasting value to them in their professional activities.

Also included in the programme were two tutorial classes on editing of manuscripts and proof-reading.

### Valedictory Function

Dr Ishwar Prakash, Professor of Eminence and also officer-in-charge CAZRI Library was the Chief Guest at the function held on 31 Aug. afternoon.

An animal ecologist by profession, Dr. Prakash invited the attention of the participants to the communication systems in the animal world which provide lots of lessons to be learnt by the rational animal, the *Homo sapiens*. He narrated that an African boy was recovered from a gorilla group which was rearing him. When the boy learnt the human language, he described the vocal mode of communication among gorillas. 32 notes were identified by the zoologists through which gorillas are able to contact all the members of the group. The zoologists checked these vocal signals by playing them amongst gorillas and confirmed what the gorilla-boy had learnt while living with the non-human primates. Dr. Prakash emphasized that we can learn from gorillas an aptitude of brevity and specificity. He classified this type of communication as auditory in nature.

Further, he explained the ocular or visual mode of communication among animals. In many species there are colours which reflect the mood of animals and even give an alarm call by exhibiting them. How the chameleon can change its body colours to exhibit, fear, warning and love, has become proverbial.

Dr. Prakash, also explained the olfactory communication among rodents. One of the species of the gerbils, a desert rodent, possesses a scent marking gland in an homologous position as that of the musk deer *(Kasturi hiran)*. Dr. Prakash has been conducting research work for the last ten years on the role of this gland in relation to olfactory communication among rodents. Through his studies, it has been revealed that the scent mark of this gland is like a 'name plate' of the individual. When it enters its burrow it leaves the scent at its opening. By smelling it, the other inmates can identify its sex, its status in social hierarchy (dominant or subordinate), oestrous and ready-tomate condition of females. This, Dr. Prakash mentioned, is an example of indirect communication.

Dr. Prakash thanked the SIS to have organised this workshop at CAZRI. Thereafter, he gave away the Certificates to the course participants.

**Feedback from Participants**

Near unanimity was expressed by the participants in the written feedback proforma submitted by them in respect of the following points:

- General impression about the manner in which the course was conducted.
- Extent of satisfaction at instructions imparted through lectures, visuals, etc.
- Opinion about usefulness of course material.

Among the lacunae identified by some participants were:

- Not enough practical exercises were included.
- Inadequate arrangements for stay
- Tight working schedule.

More than 60% participants felt there was no lacuna in the organization of the course.

The suggestions put forward for improving the effectiveness of future courses include the following:

1. Courses like this should be of 7-10 days' duration.
2. More faculty members should be included.
3. It would be advisable to split the course into at least two segments—one for editorial practices and the other for information and library activities.
4. Such course should be held on quarterly and on a zonal basis.
5. Coverage needs to be made wider by covering items like conference proceedings, financial aspects of proposals, periodic reports, etc.
6. Printed course material should be supplied.
7. Popular writing should be covered.

The course ended with a vote of thanks proposed by Shri R.N. Sharma and the participants for the very fruitful conduct of the programme with the cooperation and support extended by the host institution CAZRI, the DSIR and the Society for Information Science. The keen interest and interaction from the participants contributed to making it a really purposeful and worthwhile exercise.

R.N. Sharma
Ram D. Taneja

---

## UNIDO DG Calls for Renewed Commitment to Industrialization

Prospects for developing countries are not bright, UNIDO Director-General, Domingo L. Siazon. Jr., warned at the opening of the sixth session of the Industrial Development Board which ended in Vienna last June. "Problems of underdevelopment aggravated by heavy debt, a limited flow of foreign aid and unfavourable terms of trade", Mr. Siazon forecast, "will remain with the global economy over the coming decade."

While the eighties were often seen as a loss decade for much of the third world, he said, "it is thus more important than ever before that we help the developing countries to recharge and manage their own economic development. Flexibility, creativity, innovation and openness must become integral parts of our economic systems."

Mr. Siazon felt that UNIDO could look back over the past year "with a distinct touch of pride." Technical co-operation delivery reached a record $133.8 million, compared with $119.8 miillion in the previous year. Project approvals continued to rise from $161.4 million in 1988 to $169.5 million in 1989.

Reduced duplication of functions, enhanced internal co-ordination and simplified procedures were among the efforts contributing to improved efficiency in the Organization. Besides affecting the more traditional activities related to technical co-operation, they also had an impact on promotion of industrial investment projects. An upswing from 121 projects promoted in 1988, valued at $413.8 million, to 143 projects valued at $ 556.4 million was the result last year.

# Biotechnology Information System

Developments in biotechnology have resulted in a large volume of information and scientific knowledge, facilitating intense R&D activities all over the world. The need to keep abreast with the latest information on advances in biotechnology has become imperative for rapid progress in research, production and applications. In addition, it also calls for interaction with those working in advanced and frontier areas for developing specific applications of knowledge. In view of the enormous amount of information that needs to be closely scanned and collated, the use of computer based information storage, retrieval and data scanning systems is made to accelerate the research endeavour in this field.

## Structure of Biotechnology Information System (BTIS)

### Biotechnology Information Centre (BTIC)

The Apex Centre at the Department of Biotechnology will coordinate the activities of distributed information centres at the national level and establish on-line communication with external sources thus forming part of the International Network on Bioinformation.

### Distributed Information Centres (DICs)

There are nine information centres in the universities and R&D institutions in the country engaged in one or more of the following areas in biotechnology:

**1) Genetic Engineering**

i) Indian Institute of Science, Bangalore.

ii) Madurai Kamaraj University, Madurai.

iii) Bose Institute, Calcutta.

iv) Jawaharlal Nehru University, New Delhi.

**2. Animal Cell Culture and Virology**

v) Poona University, Pune.

**3 . Plant Tissue Culture, Photosynthesis and Plant Molecular Biology**

vi) Indian Agricultural Research Institute, New Delhi.

**4. Oncogenes, Reproduction Physiology, Cell Transformation, Nucleic Acid and Protein Sequence**

vii) Centre for Cellular & Molecular Biology, Hyderabad.

**5. Immunology**

viii) National Institute of Immunology, New Delhi.

**6. Enzyme Engineering, Immobilised Biocatalysts, Microbial Fermentation and Bioprocess Engineering**

ix) Institute of Microbial Technology, Chandigarh.

### User Centres

A large number of manufacturing units/institutions and universities would form as the User Centres in geographic locations affiliated to each DIC in their respective areas. While the Distributed Information Centres act as a repository of information in their specialised disciplines, the User Centres provide an access mechanism for the information to be available at the Universities, R&D manufacturing institutions. Thus, the User Centres provide an added dimension of access and diffusion of information across the network. fourteen User Centres have already been established at the locations mentioned in Table 1.

### BTNET

The most exciting and potentially beneficial out-growth of the union of computers and telecommunication equipment is the formation of computer network. BTNET is an S&T Network linking at present 9 Microvax II Computers at specialised centres (DICs) that form the base of the biotechnology information on resources, databases in specialised subject areas and on current developments in biotechnology. To facilitate the access facility, 14 Terminal User Centres are identified at various educational and R&D institutions located in different parts of the country having computer and data transmission systems. These will be linked to the nodes of DICs through the Department of Telecommunication's (DOTs) Packet Switched Data Network (PSDN) facility. The entire system will be superimposed on the

## Table 1 Locations of User Centres

| | Institution | Location |
|---|---|---|
| 1. | Aligarh Muslim University | Aligarh |
| 2. | All India Institute of Medical Sciences | New Delhi |
| 3. | Anna University | Madras |
| 4. | Assam Agricultural University | Jorhat |
| 5. | Banaras Hindu University | Varanasi |
| 6. | Cancer Research Institute | Bombay |
| 7. | Central Drug Research Institute | Lucknow |
| 8. | Indian Institute of Technology | New Delhi |
| 9. | Indian Veterinary Research Institute | Izatnagar |
| 10. | M.S. University | Vadodara |
| 11 | National Dairy Research Institute | Karnal |
| 12. | National Environment Engineering Research Institute | Nagpur |
| 13 | National Institute of Oceanography | Goa |
| 14. | Tamil Nadu Agricultural University | Coimbatore |

nationwide NICNET system taking advantage of the powerful computing and the satellite communication facilities. Necessary communication interfaces will be available at all DICs which would enable information to be accessed at various nodal centres as well as from User Centres through the integrated satellite communication transport system of NICNET. It is expected that the network will be used mainly to query information from DICs and outside systems. It is not meant for large data file transfer. Five of the centres under this programme have already been linked through NICNET. These are the Apex Centre at Department of Biotechnology (DBT), New Delhi; Madurai Kamaraj University, Madurai; Indian Institute of Science, Bangalore; Centre for Cellular Molecular Biology, Hyderabad; and Poona University (Department of Zoology), Pune.

Communication links with external sources/systems become possible through international gateways set up on the existing national networks such as NICNET.

## Services

Under the BTIS programme, the computerised service will be available for retrieval of relevant information related to bibliographic information (reference to publications, abstracts), scientific information (e.g. Nucleic Acid Sequence, Protein Sequence Databases), Management Information (Projects, facilities, experts, etc.) and on-line-information (e.g. DIALOG).

On-line literature retrieval from international databases is a rapid method of identifying published information on specific topics in a couple of minutes. Relevant information can be located from a search among millions of articles. While searching for some current information one may find only one article from a rare journal which is of great relevance. A copy of the reprint of the article could be accessed through FAX transmission from the specialised centres of the Biotechnology Information System or a printout may be obtained as a hard copy.

Institutions situated in remote areas which do not have adequate library facility could access the current scientific information in biotechnology through BTIS Computer Network. The Network also facilitates the researchers to process their scientific data at their end utilising resource material available as databanks in the BTIC and DICs. The databanks include:

1. Nucleic Acid Sequence Databank
2. Protein Sequence Databank

3 Protein Crystal Structure Data

4. Virus Data Bank

5. Animal Cell Line Information

6. Chromosomal Variation in Man

7. Vector Bank

8. Amino Acid Sequence

9. System on Enzymes and Enzyme Engineering

10. Hybridoma and Immunoclones Databank

The system provides new horizons in learning, allowing the learner to assimmilate knowledge through an interactive process rather than conventional class room lectures on selected subjects of biotechnology through the educational software packages available with the system.

An added advantage that the system provides is the easy access through the network to the germplasm collections such as plants, viruses, microorganisms for specimen selection in research investigations.

### Training

Training is an integral part of BTIS on use of Computers and software development in bioinformatics, databases operations and management and also on data networks. The earlier workshops centred on the first two topics cited above and the third workshop organised at Poona University, Pune focussed on Microbial Strain Data Bank, Hybridoma Data Bank and Networking with experts from CODATA. Now, NII, New Delhi has become a node of the Hybridoma Network for collection and dissemination of data in India and the other countries in South East Asian Region. Similarly, the centres at IMT, Chandigarh and NCL, Pune are recognised as nodes for information on microbial collection. While the DIC at the University of Poona is affirmed for Protein Sequence data, India is taking a lead to form International Data Bank of Animal and Plant Viruses

### Projects Completed

Under this programme, an important project for creating a database on Indian Patents in Biotechnology has been completed. The database is available in printed as well as on magnetic media. The database is operational at BTIC, New Delhi.

### On-going Projects

The support of DBT to develop source databases has resulted in (a) Project to develop a database on Indian experts in Biotechnology utilising a special software to recognise the Indian names in BIOSIS database; (b) "Serials in Biotechnology" to develop union catalogue in Life-Sciences area; (c) This year a database has been initiated in BTIC on the "Status of Biotechnology in India".

### International Collaboration in Bioinformatics

Under the joint collaborative programmes between India and GDR, bioinformatics has been recognised as one of the areas for bilateral collaboration between the two countries. The first international workshop was held in New Delhi from February 21-23 in which experts from both the countries presented papers on various aspects of bioinformatics.

# UNESCO Databases*

Unesco, like all other organizations of the United Nations system, gathers and disseminates large amounts of specialized information. This information is processed in about thirty machine readable databases. The exact figure will be known as soon as the inventory, started during the first quarter of 1990, is complete. A directory will then be published.

Databases are produced by the Division of Unesco Information Services, the Office of Statistic and by the different sectors. They are mainly of three types: bibliographic, referral and numerical. The fields covered reflect the various activities of Unesco in education, science, culture, social and human sciences, communication and information.

CDS/ISIS software is used to process most of them. CDS/ISIS, which is specifically designed for documentation/information applications, is now used by about 120 institutions in its mainframe version and more than 5,000 in its mini-micro version. Both packages were developed for use within Unesco and are now available free of charge to other institutions.

All the databases processed with CDS/ISIS on the mainframe computer can be searched online at Headquarters and in the Regional Offices that are connected through international teleinformatics networks.

Magnetic tapes and diskettes can be provided on request in the ISO 2709 international format. Always trying to apply new technologies, Unesco is testing a CD-ROM. A prototype was issued in 1989. However, for the moment, the main distribution method remains paper and various printed products are issued: directories, indexes, bulletins, etc. They are all listed in the Unesco publications catalogue which is available from the Unesco Press and Unesco sales agents.

## Bibliographic databases

### Index Translationum

Index Translationum is the largest Unesco database. It contains more than 300,000 references to translated books published in Unesco Member States. It has been computerized since 1979. Approximately 50,000 new references are added each year. A printed index is issued yearly, the last volume, No. 37, published in 1989, corresponds to translations done in 1984. Data are collected through the national libraries of each country. Direct input by processing magnetic tapes or diskettes supplied by some national libraries is being implemented. Input delays should thus be reduced. This database is searchable on the Unesco mainframe computer by author's name, translator's name, original title, language of translation, country of translation and broad subject areas. The *Unesco Statistical Yearbook* uses information from this database to generate the relevant statistical tables on translations.

### UNESBIB

UNESBIB, produced on the Unesco mainframe computer since 1972, contains, among others, bibliographic citations of Unesco documents and publications. Documents include working series, conference papers, mission reports, Executive Board and General Conference documents. Publications include monographs and articles from Unesco serials.

UNESBIB can be searched by author's name, corporate body, title and/or subject using descriptors drawn from the *Unesco Thesaurus,* bibliographic sources, type of documents and date.

Various printed products are issued: The *Unesco List of Documents and Publications (ULDP)* published quarterly with annual and triennial cumulations, the *Unesco Library Acquisitions List (ULA)* and other lists containing documents and publications relating to the different sectors and programmes of Unesco.

As far as document delivery is concerned, printed copies of documents may be obtained free of charge, as long as stocks are available. Publications can be ordered from the Unesco Press or sales agent. Photocopies and microfiches of all Unesco texts since 1945 can be purchased through the Unesco Press.

## Referral Databases

### DARE

This is the first and the largest Unesco referral database. It contains worldwide references to research and training institutions, specialists, courses, projects, documentation and information services in the field of social sciences. Periodicals in social sciences are also listed. DARE has been computerized since 1974 and has a total amount of 18,000 records with a yearly growth of 1,000.

---

* Paper presented at the National Commissions' meeting, June 1990, Paris

A collection of six directories is issued periodically. DARE can be searched on the Unesco mainframe computer using the *Unesco Thesaurus*.

**Study abroad**

A best-seller among Unesco publications, this directory refers to about 3,500 international and national scholarships and courses concerning post-secondary study and training in all academic and professional fields in 160 countries. It is managed with the DBASE III software.

**Other Referral Databases**

Pending the establishment of a complete list of referral databases, only a few will be listed here:

- EDUPLAN: Educational planning institutions
- ENERGY: New and renewable energy information sources and research centres
- IBECENT: Educational research and training institutions
- IIPNET: Research and training institutions in data processing and computer science
- INISTE: Institutions specialized in education, in the area of science and technology
- TRUSP: Teaching and research units in science and technology policies.

**Numerical databases**

The Unesco statistical data bank was founded in 1971. It contains more than three million data and has a yearly increase of 250,000. It corresponds to the printed *Statistical Yearbook* published each year and prepared by the Office of Statistics in co-operation with the National Commissions for Unesco and the national statistical services as well as with the help of the Statistical Office and the Population Division of the United Nations. Data from about 200 countries and territories are gathered concerning pupulation, education at all levels, research and development, scientific and technical manpower, culture and communication (books cinema, television, radio, museums, etc.).

Recent statistical data are available on the Unesco mainframe computer and can be downloaded and handled on micro-computer with software such as LOTUS 123, EXCEL, etc.

Under Unesco's third Medium-Term Plan (1990-1995), all these information sources will be gradually forged into a network to be known as the Unesco Clearinghouse the purpose of which will be to provide all relevant information available to the Organization in its area of competence. Work is already under way to ensure the compatibility of all new and existing information services, and a feasibility study, based on users' needs, is being undertaken on the future development of the Clearinghouse.

---

*....Information technology isn't a war-horse that can be ridden to glory....."It's just a tool—and an increasingly common and inexpensive one at that. The real power comes from the way people analyze information, make decisions and work together to produce products. That's the war-horse information systems specialists should be learning to ride."*

*Robert L.Scheier*
*in PC WEEK*

# News and Events

## CDS/ISIS Version 2.3: Course for DELNET Participants

The India International Centre and Defence Scientific Information and Documentation Centre (DESIDOC) with the support of National Information System for Science and Technology (NISSAT) organized this training course during 8 to 21 August 1990, at New Delhi primarily for DELNET participants. In the selection of the participants due attention was given to the library qualifications of the participants and the computer facilities available in the sponsoring institutions.

The feasibility report on DELNET has been prepared by CMC and now efforts are being made in its 'O' phase to link some libraries in the near future. Under the arrangements made in DELNET those participants who receive training in CDS/ISIS but face difficulties in the creation of records are helped by a team of experts who visit them in their libraries from time to time. This is done to ensure that the time and money spent on the training courses does result in positive achievements.

The faculty for the course was drawn from NISSAT, DESIDOC, Council of Social Development, National Council for Cement and Building Meterials and Association of Government Librarians and information specialists.

The training course started with introductory remarks by Shri H.K. Kaul, Course Director, Shri R.K. Srivastava and Shri S.N. Mehta. Then followed lectures on the introduction to computers by Dr. B.S. Negi of the Council for Social Development and on MS-DOS commands by Dr. S.K. Jha. Shri H.K. Kaul introduced the participants to the library networking in U.K. and Spain and the importance of database creation and library cooperation through networking. The remaining lectures and demonstrations were mostly devoted to the use of CDS/ISIS 2.3 Version. Shri R.K. Srivastava introduced the participants to the different software packages and gave an overview of CDS/ISIS followed by demonstrations and actual use of the software. Smt. S. Ravindran spoke on print formatting language and definitions of database. This was followed up by several lectures and practicals on indexing languages and techniques, inverted files, search language, thesaurus construction, input formats, Pascal interface, etc. by several experts. Dr. S.S. Murthy, Director, DESIDOC introduced the participants to networking in libraries. The demonstration of networking was conducted by Shri R.K. Srivastava. At the concluding session participants were presented certificates by Dr. S.S. Murthy.

Before the concluding function, participants were invited to evaluate the training course by filling in a questionnaire. The participants expressed satisfaction with the organisation of the course and appreciated the usefulness of the various lectures delivered during the workshop. However, they made the following suggestions:

- The period of training course should be increased to at least one month.
- Advanced training programmes should be organised.
- One PC should be provided for every two participants for practical work.
- After the training course the organisers should utilise the participants for automation work.
- Training courses on CDS/ISIS should be arranged more frequently.

## CDS/ISIS Version 2.3 Advanced Features: Bangalore Workshop

As a part of its programme for human resources development in the field of library and information science, the Institute of Information Studies, Madras, organised a Workshop on Micro CDS/ISIS Version 2.3 (Advanced Features) from 18 to 29 June 1990, at the Institute's premises in Bangalore. Twelve persons (11 from India and 1 from Sri Lanka) with some previous experience or exposure to Micro CDS/ISIS attended the workshop.

Special emphasis and hands-on practice were given to:

- Designing non-bibliographic databases;
- Integrated databases;
- New utilities;
- Information retrieval techniques;
- New features in display formatting;
- Linking of records;
- PASCAL interface programs; and
- Database exchange and interconversion of records.

As part of a project assignment, participants applied the software to design a database or computerisation of a library activitiy which they may develop further and use in their respective institutions.

The course was conducted by Prof. A. Neelameghan. He was assisted by Ms G. Sarvamangala and Ms K. Lalith, Research Assistants of the Institute.

A special lecture and demonstration session on CD-ROM was presented at the Informatics (India) Ltd, by Shri N.V. Sathyanarayana. The demonstration included a database in Micro CDS/ISIS prepared by a co-operating group of 45 medical institutions in Latin America. Another lecture-cum-demonstration on programs for the conversion of record structures in databases, such as, CAS, BIOSIS, etc., to ISO 2709 (data exchange format) to facilitate downloading or importing of the records into CDS/ISIS databases, were presented by Shri T.S. Rajashekar of the National Centre for Science Information of the Indian Institute of Science, Bangalore.

Participants evinced particular interest in the new front-end utilities, record linking, basic computing, and free text search features as well as in the PASCAL interface programs for SDI, data validation, thesaurus construction and maintenance, etc., of CDS/ISIS.

### AACR2 for DELNET

The India International Centre with the support of National Information System for Science and Technology has been promoting the creation of DELNET for the last two years. During these two years maximum attention has been paid to the creation of databases and the training of library personnel in the library automation. In the creation of records some DELNET libraries have been progressing. It was felt that such records needed to be standardised. The Committee on Standardization of DELNET recommended several guidelines to be followed up by the participating libraries to enforce the creation of bibliographic records on a uniform pattern. The committee decided that in the creation of these records DELNET should follow AACR2 rules as these rules were being regularly revised in view of the experiences of the library and software experts. Such experts were busy creating biliographic records in machine readable form the world over. AACR2 was an attempt towards international standardisation as it took care of the requirements of machine processing.

As AACR2 is likely to be used by other library networks in India, it was decided to organise a workshop on AACR2 to find out if Indian library experts have to recommend any local variations. With the financial support of NISSAT the workshop was organised during August 6-7, 1990. Several experts presented papers and participated in the discussions. From the presentations and discussions that followed it was clear that AACR2 rules were ideal for the creation of bibliographic records in machine readable form and there were no major local variations in the application of the rules in the Indian context. However, it was felt that in order to make standardisation effective cataloguing of Indian publications need to be done in uniform script to facilitate inter-filing and searching of records. It was also considered that a newtwork style manual for DELNET and other networks should be prepared. This manual should include guidelines on transliteration schemes, and special rules for non-English materials. Also more research should be conducted in the cataloguing of non-English materials.

Also, a manual for subject headings was considered necessary. It was felt that DELNET should work on this manual soon. The revision of manuals should be a periodic process for, sometimes headings did not remain in vogue for long, and were replaced by new headings. The autonomy in the creation of subject heading was not considered necessary and the work was desired to be monitered by a regular DELNET team.

Most of the discussions were confined to the problems that cataloguers faced in the use of AACR2 and CCF. It was felt that the CCF was basically an exchange format and concerned mostly with standard bibliographical data. The libraries that were interested in creating detailed bibliographic data through CCF would face problems. CCF was not created for in-depth recording of bibliographical details. For that purpose, MARC format which was being used by the national libraries, and that served their purpose. As the purpose of DELNET was to help the scholars with necessary and sufficient bibliogrphic information in the location and optimum use of records, CCF served the purpose. It was also felt that the use of CCF would eventually result in the creation of bibliographic databases in India faster and with more accurate details.

### ILO/ARTEP Workshop on Micro-ISIS

To promote use of Micro-ISIS Software among ILO-ARTEP member institutions and thereby facilitate exchange of information, NISSAT organised a workshop on CDS/ISIS Software from 9 to 14 July 1990, at Technology Bhawan, New Delhi. The workshop was sponsored by International Labour Organisation/Asian Regional Team for Employment Promotion (ILO/ARTEP).

Welcoming the participants Dr. Abhijit Lahiri, Joint Adviser, NISSAT briefly outlined the major activities of NISSAT and its achievements. He also stated that NISSAT accorded high priority to all aspects of computer based bibliogaphic information processing. Towards this end, it obtained the official distribution rights of CDS/ISIS package in India from UNESCO, and has been regularly organising training courses on the package.

Hands–on Session : ILO/ARTEP CDS/ISIS Workshop

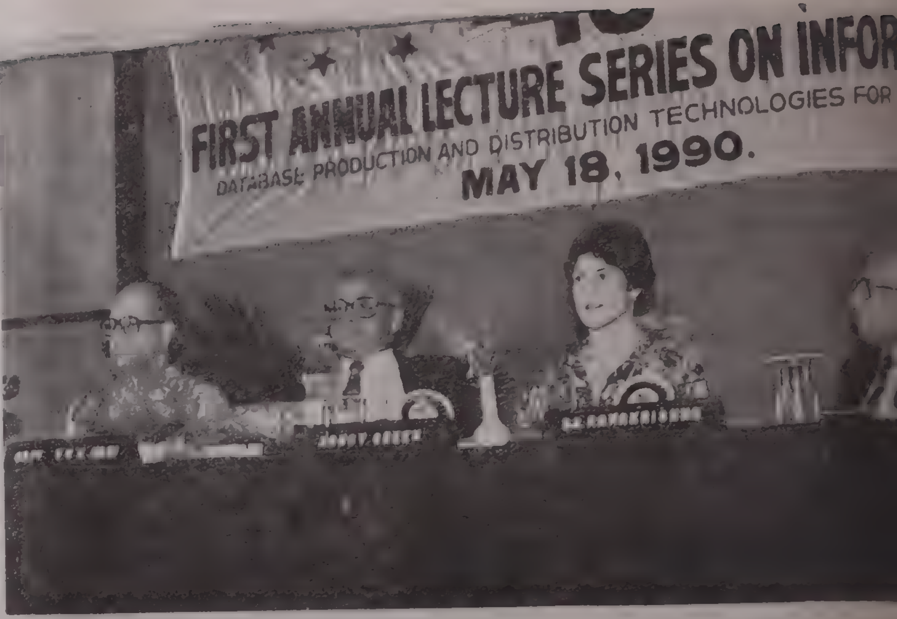
Dr. Piyasiri Wickramasekara, Officer-in-charge, ILO/ARTEP gave the background of the workshop and the Asian Human Resource Development (HRD) Planning Network. He observed that the activities of the network were supported by the UNDP and coordinated with other UN Agencies within the framework of Jakarta plan of action for Human Resource Development for the ESCAP Region. The network, grown out of the need among the countries in the Asian region for effective planning for the utilisation of existing and future human resources is supported by nine Asian countries. It was formed for developing an integrated approach to Human Resource Planning leading to effective employment, manpower, education and labour market analysis.

There were 8 participants in the workshop from different institutions. The Faculty members were drawn from NISSAT, DSIR; DESIDOC, DRDO; INSDOC, CSIR and NISTADS. All of them have been trainers for the package in the country and have wide practical experience in the field. Shri J.C. Malhotra, (ILO/ARTEP); Dr. A. Lahiri and Smt. Sreedevi Ravindran (NISAT) were the course coordinators.

*Course Content*—The workshop comprised some background lectures, but the emphasis was mainly on practicals and hands-on experience on computers. The topics included were Micro-Computers, Features of MS-DOS, Application of Micro-Computers and Software packages on Library and Information Services, Introduction of Database management, Introduction of HRD input sheets and the features of CDS/ISIS package with sufficient practical experience. The participants were trained to create their own individual sample database using the HRD input sheet.

Evaluation by the participants was quite encouraging. Some comments: (i) the workshop covered extensively the software in terms of its features and application, (ii) the balance between the lectures and practicals was very good, and (iii) the facilities provided by ILO/ARTEP and NISSAT were excellent. However, one participant felt that a more purposeful coordination between lectures/discussions/practicals is expected and demonstration part could be improved.

Dr. Wickramasekara and Mr. J. C. Malhotra, ILO/ARTEP in their concluding remarks hoped that the participants with their newly acquired skills and confidence would make the HRD Programme efforts fruitful and thanked the participants, the NISSAT and ILO/ARTEP staff for making the training programme a success. Smt. Sreedevi Ravindran thanked ILO for identifying NISSAT for taking up this activity and the participants for their active participation in the workshop.


FIRST ANNUAL LECTURE SERIES ON INFOR
DATABASE PRODUCTION AND DISTRIBUTION TECHNOLOGIES FOR
MAY 18, 1990.

**Dr. N. Seshagiri, Shri V.K. Mani, Ms Nancy Green and Dr. B.S. Ramakrishna**

**NIC to Reach out to Rural Areas: Dr Seshagiri , Informatics Annual Lecture Series Instituted**

On 18 May 1990, Informatics (India) Pvt. Ltd Bangalore, celebrated the 10th year of its incorporation by instituting "Annual Lecture Series on Informatics". Dr. N Sheshagiri, Director General, National Informatics Centre (NIC) and Additional Secretary, Planning Commission, inaugurated the lecture series, and delivered the first lecture of the series on "Database production and distribution industries for the 90's".

Dr. N Sheshagiri dwelt on present Indian scenario and stated that NIC's NICNET had 420 stations linked to one another in 420 district headquarters and offered 120 information databases for public use. Plans were afoot to expand the network to 5,100 blocks all over the country.

As NIC aimed to reach the rural areas too, the databases had to be offered in regional languages. At present NIC was collaborating with the Centre for Development of Advanced Computing, Pune, to create databases in Hindi for the users in Uttar Pradesh, he said. He also added that the NICNET had 500 million bytes of information which was growing at a rate of around 150 million bytes a month. NIC hoped to increase it to 500 million bytes soon.

Ms Nancy Green, International Marketing Manager at DIALOG Information Services Inc. USA, who was in Bangalore for the occasion as guest speaker, delivered a lecture on "Online and CD-ROM—the World Scenario". Captain V.V.K. Mani, Regional Manager, *The Hindu*, Bangalore, presided over the function.

Mr N.V. Sathyanarayana, Managing Director of Informatics, in his welcome address observed that there are 4,500 public domain databases in the world. But very few of them were available to Indians. Mr Sathyanarayana also spoke at length on the struggles, achievements and future plans of Informatics.

The lectures are video taped and are available for viewing on request from Informatics, Post Box No. 360, Malleswaram, Bangalore 560 003.

**DRDO Workshop on IT**

A 4-week workshop on Information Technology was conducted by DESIDOC from 2 to 27 July, 1990. The object of the workshop was to create awareness of and impart training in the adoption of various techniques of information handling to imporve the overall quality of information services in DRDO. It covered technologies of computers, telecommunications, optical disks, reprography and photography, etc. Seventeen participants including 3 from the Indian Airforce attended the workshop.

The Workshop was divided into four modules:

1) Introduction to use of Computer
2) Input preparation
3) Information processing
4) Information transfer

*Module 1* covered computer hardware, software, operating system DOS and Word Star. *Module 2* covered indexing languages, indexing techniques, use of thesaurus, AACR-II and Standard Bibliographical Record Format CCF. *Module 3* was the core module which covered application of computer to library and information activities, software packages including DBASE III, CDS/ISIS ver 2.3, DELMS, database creation and online searching of databases. *Module 4* included information networks, electronic mail, expert systems, CD-ROM technology, desktop publishing and FAX.

The faculty for the workshop was drawn from DESIDOC as well as from other institutions such as IGNOU, INSDOC and NIC. Special lectures by eminent information specialists were also arranged. Inhouse arrangements were made for tutorials, practical training and demonstrations. A visit to INSDOC was arranged for the benefit of the participants.

Dr. S.S. Murphy, Director, DESIDOC delivered the veledictory address and distributed the Certificates.

Shri S.K. Taneja, SIC Training and Course Coordinator presented the vote of thanks.

**Workshop on Current Awareness in Business and Industry**

A workshop on "Current Awareness in Business and Industry" was jointly organised by National Information Centre for Textile and Allied Subjects (NICTAS), Gujarat Granthalaya Seva Sangh and British Council, Bombay, at ATIRA, Ahmedabad in March 1990. Ms. Patricia Stoat, Specialist in Industrial Information, Tyne-Woas Chamber of Commerce, England was a special invitee.

Dr. T. Radhakrishnan, Chairman of NICTAS and Director of ATIRA, while inaugurating the Workshop pointed out the importance of correct, adequate and uptodate information. Ms. Stoat apprised the participants of the "information environment" prevailing in the UK. A very important aspect of dissemination of information is to understand the organisation in which one works.

The employers fix their decisions on information they get. Therefore, accurate and timely information acts as a foundation of modern business and industry.

Development of any project depends on market potential, competition and funding. Information received from various sources should be kept in a single file with the help of Word Star (WS) and Desk Top Publishing (DTP). The top management should be convinced that strategic information can be provided. She stressed the need of the concept MBWA, i.e., Management By Wondering About. Make people aware of the services available. This will help to achieve trust and status too. Newspapers and on-line database are also important sources of information. She urged India to exploit information resources within the country and then from the Western countries. Her prognosis was that '70s was the financial decade, '80s the marketing decade and '90s will be information management decade.

Shri P.C. Shah, Project Co-ordinator, NICTAS and Manager, Library and Information Services proposed a vote of thanks. Shri A. Jambekar, Librarian, IIM, Ahmedabad summed up the proceedings.

**POPLINE Service**

National Social Science Documentation Centre of Indian Council of Social Science Research has acquired POPLINE (Population Information Online) database in CD-ROM from Johns Hopkins University, USA with the assistance from UNFPA. This database provides bibliographical data and abstracts of worldwide literature on (i) research in human fertility; (ii) contraceptive methods; (iii) family planning services; (iv) maternal and child health; (v) AIDS in developing countries; (vi) census; (vii) program operations and evaluation; (viii) demography; (ix) vital statistics; and (x) related health, law and policy issues.

POPLINE is the world's largest database on population with 1,60,000 records in English language. These references are from 15 types of publications including published and unpublished works.

A computer print-out of titles with bibliographic details and abstracts can be supplied to the interested scholars by this Centre. Please send your request to the Director, National Social Science Documentation Centre, 35 Ferozeshah Road, New Delhi 110001.

National Institute of Health and Family Welfare Centre (Munirka, New Delhi-110067) also provides this service from the database to the scholars.

### NICRYS Data on INDONET

As a follow up to the previous three demonstrations at Bombay, Pune and Calcutta of On-line access of NICRYS data on CMC's INDONET, a few more are planned in the near future. The next demonstration is planned to be held at New Delhi sometime in September 1990.

Apart from Cambridge Structural data (CSD) NICRYS now plans to make available other databases and data banks also. It is proposed to have Protein Structural data and Nucleic acid data on INDONET. These are expected to be included for the demonstration session at New Delhi.

*CSD 1989 Release* — The new release of the CSD system (Version 4), is now available to the users.

The entries in the database contain extended chemical connectivity records. Associated with each atom in a structure is a pair of (x, y) plot coordinates which enable the connectivity representation to be displayed as a conventional chemical diagram.

Any publication arising out of using the NICRYS/ CSD may kindly be passed on to the NICRYS office at University of Madras, Guindy Campus, Madras-600025.

NICRYS has received some enquiries with regard to the use of On-line access of NICRYS data on INDONET and the procedures to implement the same. The following notes are intended as clarifications:

The On-line access is possible with a minimum of PC/XT computer provided a Modem is available for hooking on to INDONET. However for the latter you are required to contact the nearest CMC office which will provide technical information and advice. If Modem is not available along with PC, the CMC will help in providing one.

In addition to contacting CMC for the INDONET connection, the NICRYS Headquarters at Madras should also be contacted for other technical details relating to the database. The list of CMC offices will be posted separately to the readers for their convenience in the near future.

### Informatics—DIALOG Tie-up

Informatics (India) Pvt Ltd., Bangalore, and DIALOG Information Services Inc., USA have entered into an agreement under which DIALOG has appointed Informatics as their international training and educational consultants for the SAARC region which includes India, Pakistan, Bangladesh, Sri Lanka and Nepal.

DIALOG's formal entry into India is expected to help advancement of Indian information industry. DIALOG is the earliest online information system in the world, providing access to over 350 international databases.

### Computer Technology for Indian Languages

Department of Electronics has drawn up a programme, namely, Technology Development for Indian Languages (TDIL) for implementation during the Eighth Plan. The programme covers Sanskrit also.

During the implementation of TDIL programme, project proposals will be called for. These projects will cover areas such as language learning system, computer-based grammar and dictionary, knowledge representation schemes and natural language understanding system. These will be applicable to all Indian languages including Sanskrit. All projects taken up will involve targets for achievement and monitoring.

A Sanskrit oriented project, entitled "Computer Assisted Sanskrit Teaching, Learning Environment" was launched by the Department of Electronics as a joint project at the Jawaharlal Nehru University (JNU), New Delhi, in November 1989.

A project on investigating the use of Sanskrit language for natural language processing was initiated at the Centre for Development of Advanced Computing (C-DAC), Pune, in March 1989.

Apart from investigating the use fo Sanskrit language for natural language processing, the target of the project at C-DAC includes development of tools and techniques for Sanskrit language processing in the Paninian grammar framework.

### AGRIS on CD-ROM

AGRIS, the world's largest bibliographic database on agriculture, is now being sold on CD-ROM. Produced by the AGRIS Co-ordinating Centre of the Food and Agriculture Organization of the United Nations (FAO), the database is being distributed on CD-ROM by Silver Platter Information, Inc..

AGRIS covers all aspects of agriculture, including forestry, animal husbandry, the aquatic sciences and fisheries, and human nutrition, in over 110 participating countries. Literature covered includes grey literature such as scientific and technical reports, theses and conference papers.

An archival disc (1986-1988) contains over 300,000 records; the current disc (1989) contains approximately 150,000 records. An annual subscription to the complete set with quarterly updates costs US$ 1,350; the current disc alone — with quarterly updates — sells for US$ 750, and the archival disc costs US$ 700. Developing-country subscribers are eligible for a 50 per cent discount. FAO is distributing AGRIS on CD-ROM to each of its 150 member countries.

### Library Automation and Networking

More than 600 librarians from 25 countries participated in the first European Conference on Library Automation and Networking which took place in Brussels, Belgium, from 9 to 11 May 1990. Unesco's participation in this Conference was as follows:

- A financial contribution of US$ 15,000 which allowed 15 librarians from 11 Eastern and South-European countries to participate in the Conference;
- The preparation of a working document on *Interlending and document supply in Europe* which was distributed to the participants.
- A presentation, made during the opening session by the representative of Director General, of the Organization's Medium-Term Plan (1990-1995) with particular reference to the General Information Programme.

The *Proceedings* of the Conference, including the text of some 50 communications by experienced librarians from each region of Europe, will be published by K.G. Saur Verlag, Heilmanstrasse 17, 8000 München 71, FRG.

Copies of the document *Interlending and document supply in Europe* (PGI-90/WS/13) are available from the Division of the General Information Programme, UNESCO, Paris.

### WIPRO Develops Computer Products

Wipro has indigenously developed and commercialised several innovative products in computer sector. These are: advanced ruggedised computer system, flowsolver parallel computing platform MK2 jointly developed with National Aeronautical Laboratory, Bangalore; modular data bus designed and developed for Naval Physical and Oceanographic Laboratory, Cochin; station processor computer system designed to meet special requirements of ISRO and Landmark II supermini computer.

### INDUSTRY — CPCB Software

Developed by Central Pollution Control Board with technical assistance from IIT, Bombay, the INDUSTRY software is in use by Central and State Pollution Control Boards. It uses Dbase III plus and clipper.

The package is designed for the management of data pertaining to air and water polluting industries. It includes the information about the general water polluting and air polluting aspects, status of pollution control equipments of the different industries i.e. name, address, waste water generation status, effluent treatment plant status, emission status; information about stacks etc. The package includes modules for the consent management and cess computations under the different pollution control Acts. The package is user friendly, interactive and totally menu driven. Facilities for generating selective reports and utilities to perform duplicate checks, maintaining files, taking back ups etc. are also being provided.

### Library and Information Services in the Middle East

Dr. S. Nazim Ali, Associate Professor & Coordinator, University of Baharin Library, addressed the library and Information science professionals in Hyderabad last July. The Meeting was jointly organised by the Academy of Library Science & Documentation, Librarians' Study Circle Osmania University, ICSSR Southern Regional Centre and Department of Library & Information Science, Osmania University.

The Guest speaker dwelt at length on the use of information and communication technology for library and information services in the Middle East. As a backdrop to the topic, he described the use of computers in advanced countries like United States of America, United Kingdom, Fedral Republic of Germany, France, etc. He referred to networks and databases like OCLC, RLIN, ERTC etc., from the United States and how they have been contributing to bring efficiency and economy in library and information services. He also made a mention of CD-ROM and its increased use by libraries in developed countries and its usefulness for developing countries as compared to online use of databases.

Dr. Nazim Ali observed that all over the world information society is gradually emerging and the use of information technology has become unavoidable. Referring to the scenario in the middle east, he gave a detailed account of the use of various databases in western countries by libraries and documentation Centres there through GULFNET. He also mentioned that use of micro- mini- and main frame computers by libraries and documentation centres applying UNESCO/IDRC prepared software packages, namely, CDS/ISIS and MINISIS. There were no budgetary constraints in those countries and therefore information technologies were being increasingly adopted. The use of these technologies provided a boost to intellectual contribution by scholars.

Shri N.B. Inamdar, University Librarian, Osmania University in his presidential remarks made a mention of various committees and commissions reports and different centralised systems created by UGC like INFLIBNET, University Science Centre at Bangalore, and Centres for Social Sciences and Humanities at SNDT Womens University in Bombay and Baroda University. He also referred to various attempts that were being made to create local network like CALIBNET, DELNET, etc. The library and information science professionals in India, he said, were aware of the importance of modern technologies. But owing to financial constraints they were slow in adopting them.

Earlier Prof. A.A.N. Raju, Head, Department of Library and Information Science, Osmania University welcomed the gathering and introduced the Guest Speaker to the audience. The programme came to an end with a vote of thanks by Mr. M. Shanker Reddy, General Secretary, Academy of Library Science, Hyderabad.

### DUNDIS — New Edition Published

ACCIS has just published the fourth edition of the *Directory of United Nations Databases and Information Services.* The new, updated edition contains information on 872 computerized databases and information services managed by 39 United Nations bodies and organizations. This represents an increase in coverage of more than one third over its predecessor, published by ACCIS in 1984. While some of the databases and information services listed have existed for a number of years, many are new; the majority of the new entries are databases.

The *Directory* explains which databases and information services are available, what kinds of information they contain, and how to find out more about them. Entries are arranged in alphabetical lists, under broad subject categories. This new arrangement responds to a need, frequently expressed to ACCIS, for an easy-to-use list of United Nations systems database and information systems/services. Subject indexes in French and Spanish, as well as English, are included.

The *Directory of United Nations Databases and Information Services* (ISBN 92-1-100349-0) costs US$ 40 and is available from United Nations Sales Sections in Geneva and New York.

### World Information Service Planned

Plans for a New Computerized World Information Service to allow information to flow freely among Non-Governmental Organizations (NGOs), from East to West and North to South, were unveiled at a meeting held in Geneva in May 1989.

The East-West Meeting was sponsored by the World Information Clearing Centre (WICC), a Geneva-based non-governmental group founded during the International Year of Peace. Attended by representatives of number of United Nations system organizations as well as NGOs, religious groups and international communications experts, It was intended to gather support for improved East-West and North-South electronic information exchange.

Bearing the acronym NCWIS, the information service will be engaged in, among others on the work programme approved at the meeting, the following activities:

- An Early Warning or Alert System covering nuclear threats, environmental degradation, natural disasters and accidents, and human rights violations.

- An International Advisory Panel of experts, to give practical advice and guidance in WICC's efforts to provide NGOs with the kins of services that will substantially increase their ability to respond effectively to world problems.

- A survey of office automation studies for NGOs, in conjunction with a needs assessment, to assist NGOs wishing to join the network and expand their communications capabilities.

- A study of the "village link" — that part of the communications network beyond the computer's reach.

- The "video-Globe" project, a worldwide study of available audio-visual resources on topics related to global problems. When compiled, such a database would be continually updated and publicized through the network. WICC plans to launch a videocassette project designed to educate communities on the identification and resolution of problems related to the four major areas of concern listed above.

### ADONIS to Start Commercial Operations In 1991

The ADONIS electronic document delivery system has successfully passed through a two-year trial period and is expected to start commercial operations in 1991.

Results from the trial, according to the consortium of major publishers of which ADONIS is composed, cut document delivery costs in participating libraries in half. Of this, most was accounted for by savings in staff time. Perhaps not surprisingly, accessing and printing out articles on CD-ROM was found to be more efficient — and less fatiguing — than finding printed journals on the library shelves and physically carrying them to the photocopier. Storage requirements were dramatically reduced.

Encouraged by the trial's positive results, the ADONIS board plans to introduce a commercial service starting with journals published in 1991. The publishers of 400 journals are now being approached to allow their titles to be included.

Libraries will need ADONIS workstations, which in the trial phase consisted of a PC with 40Mb hard disk, high resolution monitor, CD-ROM drive and laser printer. As a result of suggestions made by staff who participated in the trial, certain refinements will have been made to this configuration by the time commercial operations get underway.

Participating libraries will agree to operate under specific site licenses, rather than on the basis of copyright law. They will pay what is described as a modest annual subscription. Royalties will be paid on use of the service at two levels — lower for libraries subscribing to the print version of the title, higher for those that do not. They will be based on the automatic recording of the ADONIS number for articles printed or transmitted over a network; simply viewing articles on a screen will not attract royalties.

Publishers will each set their own fee, which ADONIS will collect on the publisher's behalf. The intention is to deliver disks within two weeks of the appearance of the printed issue.—*Information Media and Technology,* Vol. 23, No. 2, March 1990.

**Malaria Database**

A database on malaria is now available free of charge on diskette from the Walter and Eliza Hall Institute of Medical Research in Melbourne, Australia. Founded by the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR), the database is part of an ongoing project aimed at disseminating information on the availability of reagents for use in malaria research.

The database, which is intended to be a complete listing of all known malaria nucleotide and protein sequences, is updated two or three times per year. Versions are available for PC compatible microcomputers in $3\frac{1}{2}$" or $5\frac{1}{2}$" formats, or for Apple Macintosh Computers. It can also be installed on a minicomputer, by transferring the files from a microcomputer using an appropriate terminal emulation program.

**UNEP Cleans up Production**

Cleaner production and technology is the goal in front of a network being established by the United Nations Environment Programme (UNEP). The network, created using guidelines laid down by UNEP's Governing Council at a Special Session in 1988, with advice from experts from various countries and international organizations, will exchange and disseminate information.

Finance is currently being provided by France, The Netherlands, UK, USA and the Commission of the Economic Community CEC). The United Nations Industrial Development Organization (UNIDO), the United Nations Centre for Science and Technology for Development (UNCSTD) and the Organization for Economic Co-operation and Development (OECD) are members of the network. A number of industrial associations are also playing an active role.

Through the network, UNEP is serving as an information broker. It will encourage regional, national and international activities to promote cleaner technologies and cleaner production.

The network will rely largely on information collected by working parties established on the following topics: the galvano industry; the textile industry; the leather industry; substitutes for and safer use of halogenated solvents; harmonization of data on cleaner production and governmental policies for promoting cleaner production methods. The working parties are composed of recognized specialists from countries throughout the world.

The first issue of a newsletter, Cleaner Production, has just been published by UNEP to draw attention to the need — and the opportunities — for implementation of cleaner production methods.

**World Media Handbook**

The United Nations Department of Public Information (DPI) is launching a directory of selected media and related data covering almost 70 countries.

Intended as a handy reference tool for United Nations information officials and other media-related specialists, the *World Media Handbook,* as the publication is entitled, integrates a wealth of data not previously available from any other single source.

The 300-page *Handbook* contains demographic data and communication statistics, laid out in a concise format. It provides a list of more than 650 newspapers, 700 magazines and other periodicals, 100 news agencies, some 350 broadcasting organizations, and 150 journalists' associations, as well as more than 150 educational institutions that teach communications. Each entry incorporates: the names of leading editorial personnel; mailing addresses; telephone, telex and fax numbers, circulation figures and frequency of publication.

Limited space meant that a maximum of 15 newspapers and 20 magazines and other periodicals could be included per country. The *Handbook* will be updated every two years; it is expected that the 1992 edition will contain entries on an additional 96 countries.

The *World Media Handbook,* price US$ 38, will be on sale at the United Nations Bookstores.

**Information on TNCs**

The Untied Nations Centre on Transnational Corporations (UNCTC) provides developing countries with a wide range of information services on Transnational Corporations (TNCs). A recent report by the Secretary General provides an overview of these services and gives examples of the ways in which they are being used by Member States.

In response to outside requests, the Centre assists developing countries — by supplying information services or products — in their dealings with TNCs, as well as supporting local development of information systems on this issue. Research and evaluation services involve information and analysis on individual companies, industries and sectors; laws, regulations and norms;

contracts and agreements; individual countries' economic and political frameworks; foreign direct investment, policy issues etc.

A second category of service helps developing countries create their own information systems. Under this heading are: information needs assessment; system design, installation and testing; evaluation and upgrading of existing systems; hardware, software and dataware evaluation and procurement; installation of information products developed by the Centre, including software applications and dataware, and training of government officials.

In addition, the Centre makes available to Member States its extensive collection of technical information related to foreign investment and transnational corporations, as well as other related publications. Finally, it provides online access to all of the world's major business databases.

Some 700 government requests for information are currently received by the Centre every year. In a number of cases, some of which are documented in the report, the information has led governments to the discovery that a company has been misrepresenting itself or its affiliations.

Recently the Centre has received an increasing number of calls for assistance in the development and management of computerized information systems. These are being used in support of policy formulation; improving the role of foreign investment and technology transfer; investment promotion; the negotiation process, and monitoring and evaluation of the performance of foreign investors.

The Centre has also started to make its own databases available as components of information systems being implemented in developing countries. In addition, it is encouraging the exchange of bibliographic data in machine-readable form. One such exchange, with an organization of Caribbean governments, is being facilitated by the use of CDS/ISIS (Mini-Micro Version) by both parties. This includes the local installation of tailored software for documentation handling, and the training of local staff.

The Seventh Steering Committee Meeting of the Information Network on New and Renewable Resources and Technologies for Asia and the Pacific (INNERTAP) took place in Quezon City, Philippines, from 19 to 23 February 1990. It was attended by representatives from the six member countries (People's Republic of China, Indonesia, Republic of Korea, Nepal, Philippines and Thailand). Representatives from AIT-RERIC, CSIRO, ESCAP, IDRC and Unesco participated also in the meeting.

The meeting included an evaluation of the INNERTAP project with regard to the funding received from the International Development Research Centre, Canada, and adopted a work programme for the next three years. The activities foreseen include: database production, technical inquiry service, document delivery, preparation of information packages on specific aspects of renewable energies and translation services, preparation of information tools (e.g. Union List of Serials), development of a database on experts and research in progress, inclusion of information on the environmental effects of energy resources in the *Renewable Energy Index.*

The Steering Committee also recommended that Unesco be approached regarding the possibility of allowing other Asian countries to join INNERTAP (namely, Bangladesh, India, Malaysia, Maldives, Singapore and Sri Lanka).

**CODATA Referral Database**

A *CODATA Referral Database (CRD)* has been set up with Unesco support. It provides an automated compilation of international records describing numerical data sources in science and technology. It combines the information contained in the *CODATA/Unesco Inventory of Data Referral Sources in Science and Technology* (to be published by Hemisphere Publishing Corporation), which contains entries collected through 1987, and in several of the *CODATA Directories of Data Sources*. The database contains at present approximately 1200 records and comes with simple retrieval software and a user manual.

The *CODATA Referral Database* is designed to permit a rapid search for data centres or other institutions which can provide numerical data or other factual information in any specified field of science and technology. The result of such a search is the name and location of each relevant institution, along with a description of its scope of coverage, holdings, outputs and dissemination policies. No actual numerical data are provided. The objective of the CRD is to cover all scientific disciplines and related fields of technology. The present version will be continually updated and expanded. Version 2 is expected to be available in March 1991. Purchasers of Version 1 may obtain it for a nominal fee.

The *CODATA Referral Database* and associated retrieval software are normally provided on high density 5.25 inch diskettes (suitable for an IBM PC/AT or compatible computer). However, either low-density 5.25 inch diskettes (suitable for an IBM PC/XT) or 3.5 inch diskettes can be provided. A minimum of 256 kbytes of RAM and 4.6 Mbytes of free space on the hard disk is required to load the present system; as the database grows, this may expand to 10-12 Mbytes.

Orders may be sent, along with US$ 175 per copy by cheque (payable to CODATA) or by Unesco coupons, to: M/s Phyllis Glaser, Executive Secretary, CODATA

Secretariat, 51 Bd. de Montmorency, 75016 Paris, France.

### ChIN

Prepared as the first one in a series of guidelines and studies of the International Chemical Information Network (ChIN), the *Selected annotated bibliography in chemical information* (10 pp.) by Yecheskel Wolman, Department of Organic Chemistry, Hebrew University of Jerusalem, has been published by the International Centre for Chemical Studies in Ljubljana, Yugoslavia, in co-operation with the Yugoslav National Commission for Unesco.

It cites relevant books and leading articles on producers and vendors of chemical information, spectral databases, information-handling software, on-line end-user searching, education in chemical information, chemical patents, chemical structures, chemical reactions, notation and nomenclature.

Available free of charge from: International Centre for Chemical Studies, Vegova 4, P.O.B. 18/1, 61001 LJUBLJANA, Yugoslavia

### INECA Journal from UNIDO

The first issue of the INECA Journal has recently been published by the industrial and Technological Information Bank (INTIB) of UNIDO as a pilot issue. The acronym stands for industrial Energy Conservation Abstracts (INECA) which was initiated in UNIDO as a data base in 1987. In direct response to the requirements of a United Nations Development Programme (UNDP)/ UNIDO regional European project.

In a preface to the Journal, UNIDO Director-General, Domingo L. Siazon Jr., points out that UNIDO, in its medium-term plan for 1990-95, emphasizes the need to increase the efficiency of energy use and conservation, including the recovery and recycling of energy and the utilization of renewable sources of energy.

He adds: "This first collection of Industrial Energy Conservation Abstracts focuses on four large-scale energy-intensive industries in the European region. In the course of the coming years coverage will extend to other sectors and other regions, thus helping to strengthen the developing countries' ability to overcome the energy-related problems besetting their industries."

The information contained in the first issue has been extracted from the Industrial Development Abstracts (IDA) database of UNIDO, in addition to that generated by the Industrial Energy Conservation Network (ENCONET).

According to the Editorial "UNIDO is trying to encourage owners of information on industrial energy conservation technology to join in an effort to help developing countries, which are in need of appropriate information to help in their decisions concerning industrial development. INECA acts as a medium to those institutions wishing to make their equipment, processes or knowhow known to a wider audience and market..."

The first issue of the *INECA Journal* is divided into two main sections: abstracts of mostly unpublished technical reports and a selection of technologies (equipment and know-how). Both sections cover industrial energy conservation.

### Materials Database Experience

Moscow will host an international symposium and workshop on Materials Database in April 1992. The event is sponsored by CODATA, Academy of Sciences of USSR and the State Committee of the USSR on Quality Control and Standards (GOSSTANDART). Its objectives are:

- To exchange local and multinational experience and identify opportunities and obstacles to the provision of materials property data via computerized systems through collaboration on a world-wide basis
- To classify the problems, to propose routes for their solution, and to qualify the benefits which these systems offer

The scope of the symposium covers:

- Motivation of users and database builders in promoting the international development of activity on materials information systems
- Local, national and international materials information systems. Present state, problems, and opportunities for further development, including:
  - — Software and hardware problems
  - — standardization of terminology, formats, and description of materials
  - — database applications: CAD/CAM/CAE systems, expert systems, knowledge systems, materials modelling, etc.
- Problems of data and database quality
- User's expectations and needs
- Database economics and marketing
- Networking of materials databases

This is a preliminary announcement. Details will follow.

### Theory of Informetrics: DRTC to Host 1991 International Conference

The Documentation Research and Training Centre, Bangalore is organizing the third international conference on informetrics during 9-12 August 1991 at Bangalore.

Co-sponsoring the conference are INSDOC, New Delhi and Sarda Ranganathan Endowment for Library Science, Bangalore. Celebrations of the birth-centenary of late Prof. S.R. Ranganathan form part of the conference.

#### Scope

The main purpose of the conference is to provide a forum for scholarly and scientific interaction in the broad domain of informetrics.

**The topics include:**

- Informetrics: Foundations, Empirical laws, General theory
- Bibliometrics: Classical Bibliometric Laws, Models, Distributions and their Applications, Epidemic models etc.
- Citation Analysis
- Obsolescence of literature
- Growth of libraries, systems and databases
- Information Use: Informetric models
- Circulation theory, in-library use, use of journals, use of databases, etc.
- Scientometrics: Quantitative aspects of sciences Quantitative and graphic studies of science policy, science administration, scientific productivity, etc.
- Statistical Methods as applicable to Informetrics Rank theory, non-Gaussian distributions, stochastic models, bootstrap approach to inference, multivariate studies etc.
- Software: Development of special purpose software for informetrics.

The last date for submission of full papers is 31 December 1990. Registration fee is Rs. 1200 per participant. Correspondence may be addressed to Dr I.K. Ravichandra Rao, Organizing Secretary, Informetrics-91, DRTC, 8th Mile, Mysore Road, Bangalore 560059.

### ILA Conference: Jodhpur

During the XXXV All India Library Conference of the Indian Library Association, a seminar on Computerisation and Library Networking is being organized. The University of Jodhpur will host the conference and the seminar during 26-29 Dec. 1990.

### Communication and Information Thesaurus

This thesaurus has been prepared by Mrs Jane Aitchison, under contract with FID. It is being translated into French and Spanish and the three versions will be published at the end of this year or early 1991, both in printed and in electronic form.

Developed out of the 2nd edition of the *Unesco Mass Communication Thesaurus* compiled by Jean Viet, it has been expanded in the communication and information technology sections and a more rigorous analysis of concepts has been sought throughout. The information technology aspects of library and information science have been covered in addition to more conventional LIS subjects.

Compiled initially for the use of members of COMNET, an international network of documentation centres on communication research and policies initiated by Unesco, it is also intended for any interested organization in the communication field and for professional, research and educational institutions concerned with library and information science management.

The project has been financially supported by Unesco, the International Programme for the Development of Communication (IPDC) and the Friedrich-Ebert-Stiftung in Bonn, FRG.

### Workshop on Machine Translation Postponed

The regional Workshop on Machine Translation has been postponed from Sept. 17-22,1990 to Feb. 18-24,1991. The organising committee took this decision because Resource Persons did not confirm their participation. Countries invited to participate also did not respond.

R.N.-34608/78
RNI New Delhi

ARY & DOCUMENTATION
UNIT
C.F.T.R.I. MYSORE

ISSN 0970 – 0188
OCT – DEC. 1990

90/4

# NISSAT
NEWSLETTER

Organ of National Information
tem for Science & Technology
Department of Scientific &
Research, New Delhi

# NISSAT

NEWSLETTER

Vol. 9 No. 4 Oct.-Dec. 1990

**Editorial Committee**

Dr. A. Lahiri
Jt. Adviser (NISSAT)
Department of Scientific & Industrial Research
New Delhi-110016

(Smt) S. Ravindran
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri B.G. Sunder Singh
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri S. Nagarajan, President
Society for Information Science
c/o PID, New Delhi-110012.

Shri P.C. Bose, Secretary,
Society for Information Science
c/o ARIC, New Delhi-110012.

Shri R.N. Sharma
Society for Information Science
c/o PID, New Delhi-110012.

**Editor: Ram D. Taneja**

**Editorial Office:** S-371, Greater Kailash-I,
New Delhi-110048.

© 1990 DSIR, New Delhi.

Published by the Society for Information Science on
behalf of National Information System for Science &
Technology (NISSAT),
DSIR, Government of India,
Technology Bhawan,
New Delhi-110016.

**NISSAT Newsletter**, published quarterly, is the official organ of NISSAT, and is aimed at disseminating information concerning programmes, activities and achievements of NISSAT as also of the various centres functioning under it. Additionally, it attempts to project major developments in the field of information science at national and international levels.

Communications concerning the Newsletter may be addressed to Dr. A. Lahiri, Jt. Adviser (NISSAT), Department of Scientific & Industrial Research, Government of India, Technology Bhawan, New Mehrauli Road, New Delhi-110016. Material published in the Newsletter can be reproduced with due acknowledgement to the source.

**Cover Design: N.N. Sethi, Associated Artists, New Delhi-110001.**

# NISSATCARD — A Passer-partout for Library Users

Can you walk into a library and have access to information material? In most libraries, non-member users would have to take special permission from the Head of the Library after producing satisfactory proof of their bonafides.

Can you get a book issued from a library of which you are not a member? Presently this is possible only through inter-library loan, or by courtesy of a member friend.

As things are, it is extremely difficult to access or use resources located outside of the library of ones own institution. In that case, the literature search of a researcher gets limited to the resources available in his institution. An entrepreneur, or one from small and medium scale industries which usually lack library facilities, has to depend entirely on courtesies extended by somebody.

Imagine a single membership that could facilitate access to information material in all libraries in the country and voila, we have the concept of NISSATCARD.

In this concept three sets of players are involved. The position of users has been discussed earlier — their problem of getting access has to be solved. On the other side, the interest of library custodian is to be protected in the scheme. Presumably a librarian does not allow anybody and everybody to use the reading room facilities or to borrow books because he is worried about possible loss or mishandling of materials or he does not want to overload his system. In his heart of hearts though he may welcome a reading room full of serious readers. In between these two communities, NISSAT may work as the access facilitator. The NISSATCARD is a means of performing this role.

As to how NISSATCARD would be issued, and how this scheme would operate, are matters of detail to be worked out. In the first instance the scheme may be designed purely on commercial lines. For example, a deposit of say Rs. 1,000/- may be taken from individuals and a higher amount from institutions as security. This amount may be retained in banks and government securities, out of the interest of which the scheme may be operated. A sophisticated security-proof card like credit cards may be issued for introducing the user. A wad of cheques may be issued to facilitate issue of library materials. Along with the card and the cheque book, a directory of libraries participating in the scheme may be provided.

So far as the interest of libraries is concerned, one can explore with the general insurance companies to find out whether loss and mishandling of books, etc., could be covered by insurance. If not, an accounting system may be evolved through which such loss or damage of information material could be compensated.

The idea is still in an embryonic stage. A study would soon be launched to establish the feasibility of the concept. We would appreciate if you could communicate to us your ideas and apprehensions. There would be problems of course but most of these could possibly be overcome. It must be realized that the system proposed would facilitate maximizing the benefits of the limited resources available and help reduce acquisition in overlapping areas. And last but not the least, it would help conserve our foreign exchange resources. — A. Lahiri

NISSAT

NEWSLETTER

Vol. 9 No. 4 Oct.-Dec. 1990

## CONTENTS

NISSATCARD — A Passer-partout for Library Users 1

Regional Informatics Network for South and Central Asia (RINSCA) 3

Project ERNET 6

Format Conversion with the CCF Converter 11

International Chemical Information Network (ChIN) 13

Electronic Data Processing Posts: Rationalisation of Pay Scales 15

New Delhi Hosts ICCC 90 18

Recent Publications 19

News and Events 23

NISSAT Newsletter — Mailing List Revalidation 31

C. F. T. R. I., MYSORE

# Regional Informatics Network for South and Central Asia (RINSCA)

by
A. Akopov
UNESCO Regional Office for Science and
Technology for South and Central Asia
New Delhi.

In October-November 1990 the Regional Meeting of the National Coordinators for the Regional Informatics Network for South and Central Asia (RINSCA) and Intergovernmental Informatics Programme (IIP) Focal Points was held in New Delhi at UNESCO Regional Office of Science and Technology for South and Central Asia (ROSTSCA). The meeting was attended by the National Coordinators from Afghanistan, Bangladesh, India, Iran, Mongolia, Maldives, Nepal, Pakistan, Sri Lanka and USSR.

Meetings of this kind have been organized yearly since 1983 and are aimed at promoting regional cooperation in the field of informatics, coordination of efforts of participating countries and UNESCO/IIP as well in building up of regional infrastructure, identifying priorities and initiating appropriate national and regional projects.

The major issue discussed at the last meeting was the new project proposal on Regional Informatics Network for South and Central Asia (RINSCA) for evolving regional Informatics Network for Asia and Pacific (RINAP). The project proposal was worked out in cooperation with National Informatics Centre (NIC) of India in accordance with the recommendations of the previous meeting of the National Coordinators held in Kathmandu, Nepal in October 1989. The project proposal was presented by Dr. N. Seshagri, Director-General of NIC.

The general outlines of the project are as follows.

### Brief Description

To set up a Regional Informatics Network for South and Central Asia (RINSCA) and in cooperation with the Regional Informatics Network for South East Asia and the Pacific (RINSEAP) evolve a low cost Regional Informatics Network for Asia and the Pacific (RINAP) with computer-communication linkages and access to mutually agreed upon databases; towards this end, specialised training programmes will be arranged for preparing the participating countries for a self-reliant implementation, maintenance and utilisation of the respective nodes of the network; towards efficient utilisation of the network, create appropriate national infrastructures for retrieval and dissemination of information from internationally available commercial databases and United Nations databases apart from regional facilities for CD-ROM premastering, mastering and replication facilities for full texts of open documents collected within the RINSCA region on agreed upon topics.

## A. CONTEXT

### 1. Description of Sub-sector

Sustained and sporadic efforts were made in the past, under a number of projects supported by United Nations and other international organisations, in South and Central Asia as well as in South East Asia. These efforts have made virtually no impact because of the conspicuous absence of the physical network infrastructure. There exist demand for access to United Nations Databases for which the countries feed information without deriving direct benefit in the form of ready retrieval facilities. In addition, numerous, commercial international databases are available online for which also, there exists considerable potential demand in the two sub-regions of Asia and the Pacific.

### 2. Regional Strategy

The inability of these countries to retrieve information at low cost can be traced to the absence of International Gateway Packet Switch (IGPS) systems in most of the countries of both the sub-regions. If such a system existed following certain strict international standards and protocols, it would facilitate not only access to international databases, but also physically link all the participating countries of the two sub-regions in the form of a Regional Informatics Network. In the implementation of this, a technically adequate low cost approach is advocated to installing IGPS equipment with the international/overseas communication service organisations in the host countries in the region with links to the national focal points identified for RINAP/RINSCA through a dedicated line or radio link.

### 3. Prior or Ongoing Assistance

In the sub-sector '*Informatics Network*', there are a number of projects either at a low key or at pilot stage. UNESCO has been running the RINSCA Project at a very low key since 1983 without the benefit of a physical network. Under the auspices of the Inter-governmental Informatics Programme (IIP) of UNESCO, a few computer-communication links are proposed to be installed on a pilot basis. Some of the countries like India and Indonesia have their own satellites with extensive VSAT or SCPC type of networks and strong intra-national networks are growing in these two countries. The UNDP has been supporting a pilot project called Technology Information Pilot System (TIPS) with a few countries in the region as participants. IDRC had supported a DEVSIS Node in Pakistan which has since been discontinued. ESCAP has set up a number of information systems concerning Asia and the Pacific Region though, these are not available online to all the countries even within the region.

### 4. Institutional Framework for the Subsector

Since UNESCO/ROSTSCA has succeeded in getting the approval of various member countries for setting up RINSCA since 1983 and the follow up measures taken by UNESCO for setting up a similar project RINSEAP, the institutional framework for the sub-sector is proposed to be coordinated by UNESCO under its overall Inter-Governmental Informatics Programme (IIP). Towards this end, the headquarters of RINSCA will be UNESCO/ROSTSCA in New Delhi and the headquarters of RINSEAP will be UNESCO/ROSTSEA, Jakarta. Executive Secretaries have been identified in both the sub-regions with a proposal for a hotline electronic mail link between the two. An Inter-subregional Coordination Committee between RINSCA and RINSEA is being set up for facilitating coordination on a standing basis. Each participating country in both the sub-regions has identified IIP/RINSCA/RINSEA focal points which will act as a single point clearing-house for all transactions to and from the country. The responsibility for growing the user community for RINSCA/RINSEA is given to the national focal points with UNESCO/ROSTSCA/ROSTSEA acting as catalytic agents respectively. A pre-mastering, mastering and replication facility for CD-ROMs is proposed to be set up one each at RINSCA head-quarters and RINSEA head-quarters for mass production of CD-ROMs of full text open documents in identified areas generated in the respective subregions with a widespread distribution throughout the world. The entire project will come within the regular project appraisal of IIP.

The above institutional framework for the proposed project fits into the following institutional framework generally existing in the participating countries for the subsector of Informatics Networks: In South and Central Asia only India has extensive informatics networks in addition to Iran and Pakistan who have small but growing computer communication network. In South East Asia, South Korea, Singapore and Indonesia have extensive networks within their countries in addition to Malaysia, Philippines and Thailand which have small but growing networks. Virtually in all the countries of both the subregions, telecommunications including computer communication, is governed by the Post and Telegraph or Telecommunications Department of the Government of associated public sector organisations except in Singapore and South Korea where private sector companies have also taken initiative. The institutional framework coming in the way of international online computer-communication is the security considerations of transborder data flow which are governed by the Government Departments for Internal Affairs and Foreign Affairs or equivalent institutions. Whereas most of the countries in the two subregions have a reasonably good policy framework for computerisation, the policy framework for computer-communication practically does not exist except in a rudimentary form in South Korea, Singapore and India.

The institutional framework for the project has to be evolved within the ambit of this institutional framework for the sub-sector.

## B. PROJECT JUSTIFICATION

### 1. Pre-project Scenario

Most of the countries in the RINSCA region except India do not have online access to UN and International Databases, Even in the case of India, online access facility is less than one year old and is at a rudimentary stage. Awareness concerning CD-ROM databases and their access is also either non-existent or at a very low level. The situation is the same in the countries coming within the purview of RINSEA project except in the case of Singapore, South Korea and Philippines where a beginning has been made recently. Under the various projects and programmes of the United Nations, hundreds of databases are being created for which the countries of the RINSCA and RINSEA region are contributing information pertaining to their countries. Nevertheless, most of these countries do not access information from the databases to which they contribute. The main reason for this is the lack of appropriate packet switched gateways for online access of UN and international databases as well as bottlenecks in the form of foreign exchange and customs restrictions preventing the free flow of CD-ROMs in and out of the countries. Further, open information available within the region in the form of reports, are not available to other member countries of RINSCA/RINSEA in full text form. Publishing of full text CD-ROMs and distribution through UNESCO can overcome many of the bottlenecks presently encountered.

### 2. Post-project Scenario

At the end of the project, the problems mentioned in B(1) above are expected to be solved in all the member countries. For some of the least developed countries in the region, continued UNDP and UNESCO assistance beyond the duration of the present project may be necessary in order to bring them to a self-sustaining level. The cost of this extended assistance over a further three year duration is, however, expected to be less than 20 percent of the budget for the present project. These countries are: Male, Bhutan, Afghanistan and Mongolia.

### 3. Target Beneficiaries

As the proposal refers to the creation of gateways to online databases and subscription to CD-ROM databases, in the long term numbering a few thousands, the beneficiaries can, in principle, be all the organisations and people who are engaged in the national economic and social development process. In practice, however, the beneficiaries are restricted to the organisations and people specialising in areas identified progressively by the RINAP/RINSCA steering Committee like the Development Planning Documentation, Health Information, Industry and Technology, Agriculture, etc. The project proposes to deal with directly only one focal point in each of the participating countries. Except in the least developed countries, it is expected that the focal point will mobilise existing resources and elicit the support of existing organisations for servicing the queries to the databases. This information dissemination responsibility will be the counterpart investment of the governments of the participating countries for deriving the maximum benefit from the project.

The availability of such a gateway and the CD-ROM resources will be publicised widely in the respective countries so as to attract priority users for benefiting by the project. For example, in India there are extensive computer-communication networks available already spanning numerous cities. Though the proposed project gives access to the external gateways and hence a large number of databases available in the United Nations and other International organisations, they are available only at the focal points. If the focal point makes use of the existing telex or computer-communication networks in the best possible manner, it is possible to operate the query system from a large number of cities.

### 4. Project Strategy and Implementation Arrangements

Mainly, the strategy is three-pronged: (a) giving wide access to online international databases, (b) subscripting to CD-ROM databases in areas of interest to the participating countries and (c) creating a regional pre-mastering, mastering and replicating facility for CD-ROMs for full text report storage for intra-regional and inter-regional distribution. These three technologies have been chosen in view of their low cost and omnibus capability.

The above project proposal was unanimously supported by representatives of RINSCA member states and adopted for implementation in South and Central Asian region. UNESCO/ROSTSEA was requested to circulate the project proposal among the countries of South-East Asia and Pacific for their consideration of possibilities of parallel intercoordinated development of RINSCA and RINSEAP and further integration of the two networks into RINAP.

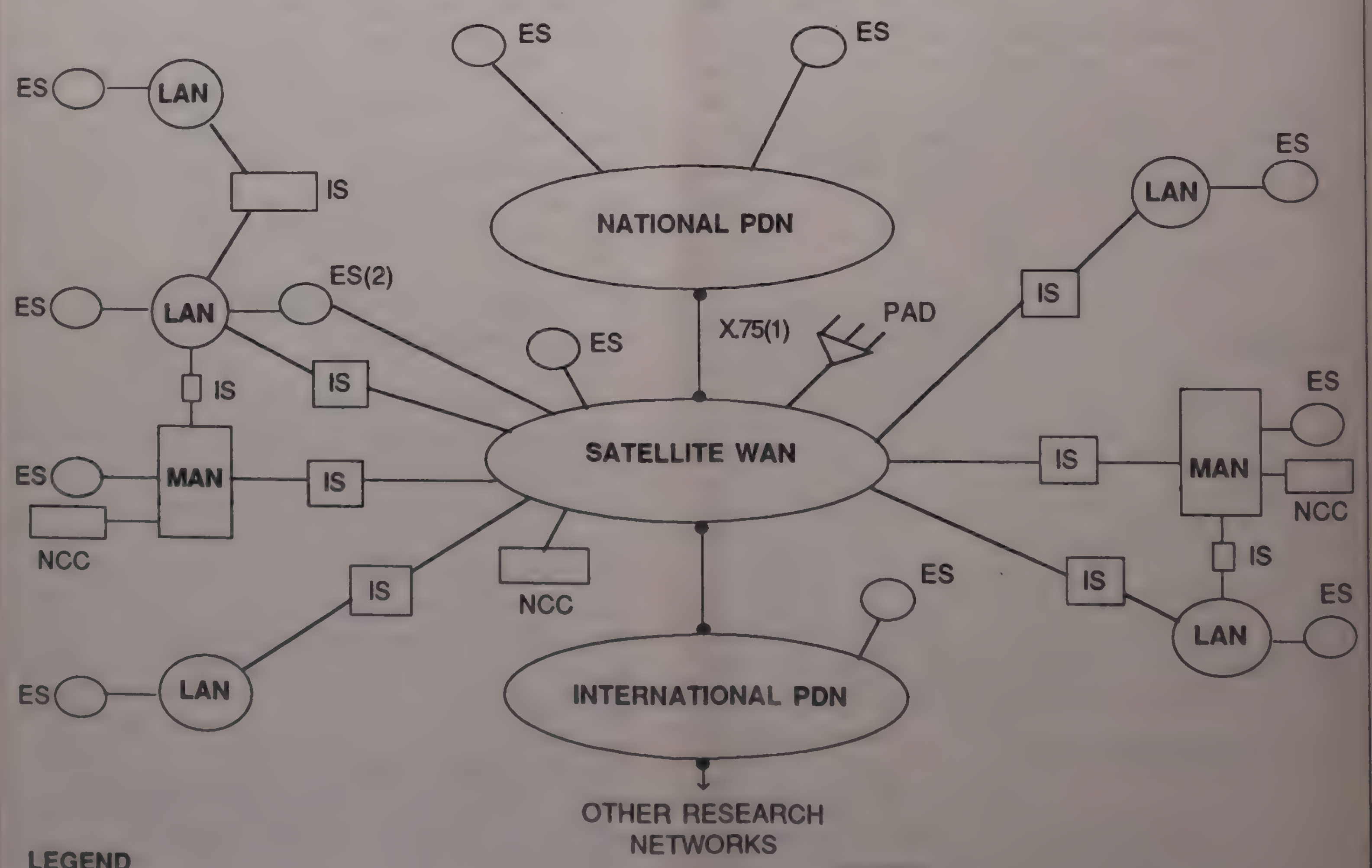
# Project ERNET

Project ERNET was initiated as a result of identification of computer networking as a thrust area by the` Department of Electronics (DOE) during the Seventh Plan (1985-90). It is aimed at setting up a computer network for academic and research community with initial participation from eight leading academic and research institutions including the Department of Electronics.

The methodology adopted in implementing the network, ERNET, is aimed at promotion of capability-building at the participating institutions so that the nation can derive the benefits from the project activity and accelerate the goal of attaining self-reliance. Technology development coupled with hands-on experience in design, development, use and support of the ERNET (to be put to use initially by the participating agencies themselves and later by a wider section of academic and research community in India) is expected to pave the way for a must wider deployment of the capabilities, technologies and solutions thus generated in industry, public, private and specialized networks as well as other user groups in India.

The ERNET architecture and implementation strategy follow an evolutionary path to enable progressive and rapid building up of capability,

**General ERNET Architecture**



**LEGEND**

ES - END SYSTEM
IS - INTERMEDIATE SYSTEM
NCC - NETWORK CONTROL CENTER
PDN - PUBLIC DATA NETWORK
PAD - PACKET ASSEMBLER/DISASSEMBLER

**NOTES**

1. Use of X.75 assumes ERNET wan is granted DNIC; otherwise special IS will be needed.
2. ES may be connected to both LAN & WAN but not act as IS.

expertise and confidence for graceful migration from *proprietary* solutions or *non-standard* solutions to those based on *international standards*. Multi-vendor computing environment is supported with an *internetworking architecture* with a variety of underlying sub-networks, *viz.*, campus Local Area Networks (LANs), Wide Area Network (WAN), Packet radio based Metropolitan Area Network (MAN). Global applications would include *electronic mail, file transfer, remote log-on, database access and conferencing.*

As an enabling technology for academic and research community in the country, ERNET endevours to provide a vehicle for strengthening collaborative efforts among geographically dispersed institutions, groups and individuals. It should thus help to strengthen linkages between academia, R&D groups and industry.

The project started in November, 1986 with an initial duration of four years. UNDP has provided critical support through international experts, training at reputed institutions abroad and development tools.

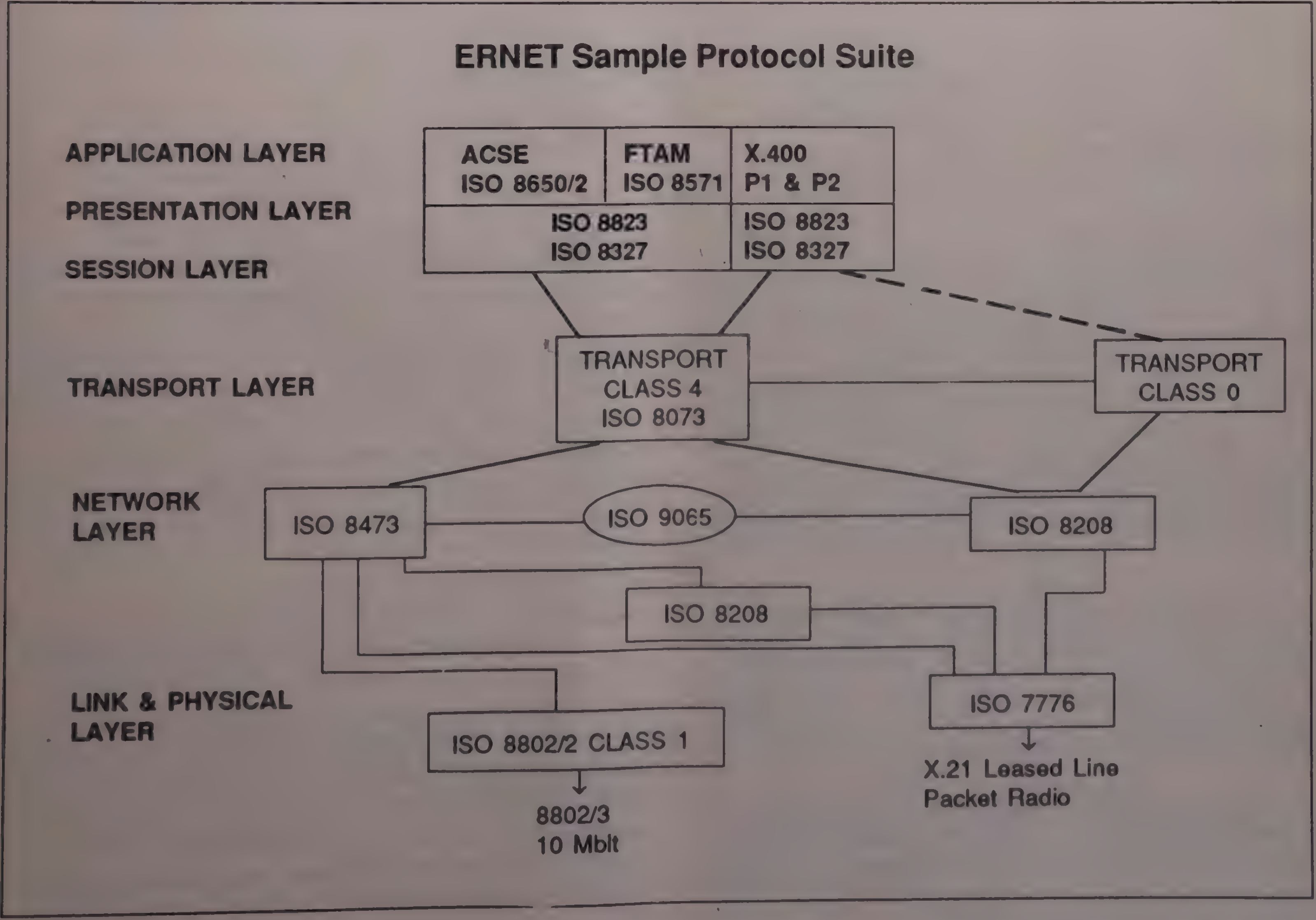
## Objectives

The development objective of ERNET is to enhance national capabilities in the areas of design, development, research, education and training on state-of-art concepts of computer networking and related emerging technologies.

Its immediate aims are:

- To progressively set up a nationwide network for academic and research community starting with eight participating premier institutions.
- To undertake design, development and advanced research in emerging concepts of computer networking & related technologies.
- To carry out education, continuing education, training and consultancy programmes to generate critical manpower needed by industry and users in this field.

The strategy is to dovetail the following two to re-inforce each other:


ERNET Sample Protocol Suite
APPLICATION LAYER
PRESENTATION LAYER
SESSION LAYER
TRANSPORT LAYER
NETWORK LAYER
LINK & PHYSICAL LAYER
ACSE ISO 8650/2
FTAM ISO 8571
X.400 P1 & P2
ISO 8823 ISO 8327
ISO 8823 ISO 8327
TRANSPORT CLASS 4 ISO 8073
TRANSPORT CLASS 0
ISO 8473
ISO 9065
ISO 8208
ISO 8208
ISO 7776
ISO 8802/2 CLASS 1
8802/3 10 Mbit
X.21 Leased Line
Packet Radio

- Build a network infrastructure for academic & research community using state-of-art concepts & technologies
- Undertake design, development, research, education, training & consultancy activities.

## Network Infrastructure

### Goal

System Engineering of multi-vendor network architecture with ISO protocol suite for the use of academic and research community.

### Architecture

Fully based on OSI model and ISO standards

Internet Architecture with campus LANs, WAN and packet radio as main architectural components

Adopt Interim solutions without prejudice to ultimate goals, if they sub-serve achievement of ultimate goals.

### Services

Electronic Mail
Remote log-on
Conferencing
File Transfer
Data-base access

### Sub-Networks

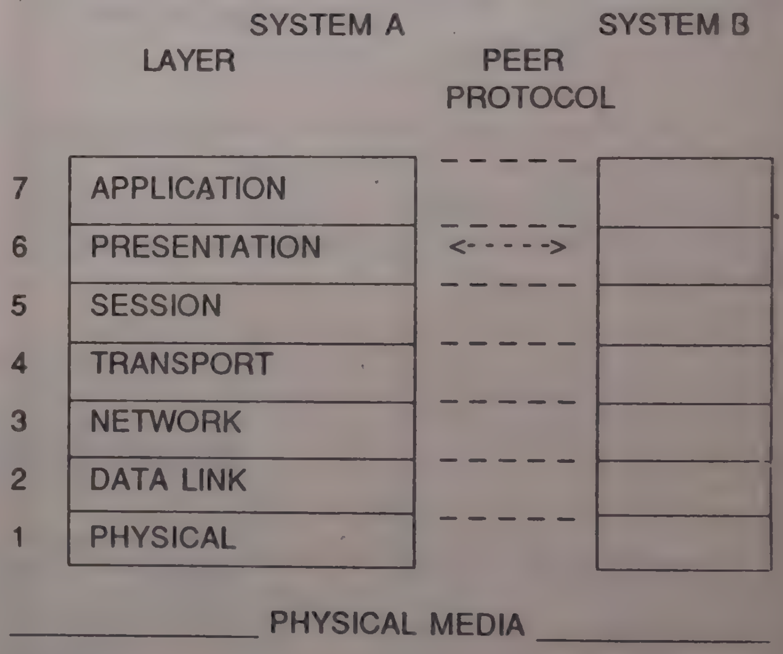
Ethernet (802.3 10 base 5) based Campus LANs at the eight project sites. Multiple LAN segments and, in some cases, non-Ethernet LANs concatenated through repeaters, bridges and routers. Interconnection to WAN through an IP router/gateway. Multiple protocols including proprietary LAN operating systems initially supported with progressive migration to non-proprietary, multi-vendor standards through interfaces at difficult levels.

Satellite based Wide Area Network (WAN), currently under implementation to provide connectivity between the eight project sites initially with data rates of 64/128 kbps and support multi-media conferencing capabilities.

Interim WAN, using dial-up lines and UUCP, provides electronic mail capability between project sites since Jan '89. It is connected to campus LAN, at each site and to worldwide academic and research networks through a gateway at Bombay. Fourteen more academic and research institutions currently connected with mail traffic at 1000 mails/day. Traffic and number of nodes are growing steadily.

### Standards and Protocols

Multi-vendor computing environment, operating under various underlying networks, is supported by the adoption of a set of standards and protocols. In ERNET, these are based on the seven layer Open System Interconnection (OSI) model of ISO and the international standards of ISO/CCITT that have emerged or emerging based on this model.



While products conforming to these are not yet widespread even in advanced countries, their introduction is also slowed down by the large installed base of proprietary and de-facto standard solutions in those countries. However, it has given us a unique opportunity to leap-frog the intermediate phase of proprietary and non-standard solutions. Thus, in keeping with the spirit of the project, ERNET would be a test-bed for industry and users in assessing the efficacy of OSI in meeting their requirements.

Layered approach to the network architecture provides for gradual adoption of new standards as they emerge and also enables graceful migration. Message Handling System (MHS) based on X.400 and file transfer based on FTAM are already stable standards and are currently under implementation in ERNET. At the transport and network layers, two divergent approaches have emerged in the international scene, namely, *connectionless*

*(CLNS)* and *connection-oriented (CONS)* network layer service with corresponding transport class (Class 4 in the case of CLNS and class 0/2 in the case of CONS). In ERNET it is proposed to adopt TP4/IP, though the final decision will be taken in the light of early experiences.

**R&D, Education, Training and Consultancy**

*Goal*

To enhance national capabilities in the field of computer networking and related concepts/ technologies with a view to:

Accelerate self-reliance

- Narrow the gap with advanced countries in terms of technology, concepts, products and services
- Support spread of computer networking as a tool in a variety of socio-economic applications to increase productivity, efficiency, competitiveness, quality of services etc.
- To enable competitiveness in information technology goods and services and aid exports

**Strategy**

Strengthen research in this field at leading institutions (academic & research)

Identify key areas of international trends in technology & concepts and invest in development groups to address these

Selectively undertake product development efforts to aid indigenous industry/users

Provide laboratory infra-structure, network infrastructure & testing infrastructure as platforms to carry out research, development & demonstration

Encourage collaborative linkages between academia, industry & user groups

Reconcile long-term & short-term concerns as well as capability building and commercial aspects of computer network products & services

Generate capable manpower in this field for industry/users as also provide continuing education/training for industry/users on state-of-art technologies & concepts

Absorb world-wide developments in this field and disseminate to industry-user so that indigenous products/services/infra-structure remain globally competitive in this field

Maintain international collaboration through strong linkages between academic, research, government counterparts; and strengthen the bargaining position of indigenous industry

Assist Indian users, network providers (Public & dedicated) and industry in absorbing/ adopting state-of-art developments and exploiting them to their best advantage in building Information Technology solutions, taking into account price-performance as well as strategic considerations

Catalyse mass applications of computer networks & network based systems, solutions and services

R & D efforts in ERNET can be viewed under three categories:

- Products for technology transfer
- Engineering of network capabilities
- Demonstration of technologies, concepts and research

Products for technology transfer can succeed only through joint efforts with industry, ERNET welcomes industrial participation from conception stage to engineered products to exploit complementary strengths and weaknesses. LAN hardware and software, OSI protocol modules, PAD are examples of products which have reached a stage for initiating dialogue on technology transfer.

A variety of networking hardware and software solutions developed or engineered under ERNET provide opportunities for dialogue with industry and user groups on the merit of alternative technologies/solutions. X.400 MHS, use of fibre optics in LAN, network monitoring and measurement, user interfaces, bridges, IP routers, packet radio, voice mail, low-cost modem are examples of areas where ERNET experience could be of interest to others

Still more, there are areas which require a long-term research approach to develop good understanding of the key issues involved. Security, network management, directory services, multimedia applications, video conferencing, use of ISDN for computer networking applications, encryption, distributed computing, distributed transaction processing, Electronic Document Interchange (EDI), automatic protocol compilation and verification techniques, conformance testing, modeling, performance analysis, suitability of alternative protocol standards for satellite channels are examples of areas in which ERNET community has research interest.

**Participating Agencies**

Around fifty full-time engineers with a complement of research associates, part-time faculty members, students and support staff are distributed at the following eight participating agencies:

- Indian Institute of Technology, New Delhi
- Indian Institute of Technology, Kanpur
- Indian Institute of Technology, Kharagpur
- Indian Institute of Technology, Madras
- Indian Institute of Technology, Bombay
- Indian Institute of Science, Bangalore
- National Centre for Software Technology, Bombay
- Department of Electronics, New Delhi

The eight agencies work on complementary areas and problems even while co-operating on issues of common concern and overlapping areas. The network infrastructure itself facilitates such an effort.

**Management Structure**

A three-tier management structure consisting of Policy Planning Committee (PPC), Apex Programme Coordination Unit (APCU) and Institute Project Monitoring Committee (IPMC) oversees the implementation of the project.

PPC, functioning under the Chairmanship of Secretary, DOE, includes senior members from Planning Commission, Department of Economic Affairs (DEA), Ministry of Human Resource Development (MHRD), Telecom Commission, Department of Science and Technology (DST), UNDP and office for Project Services (OPS).

APCU, responsible for operational decisions pertaining to the project, functions under the chairmanship of National Project Coordinator and includes the Institute Coordinators of the Participating Agencies, apart from a member from Telecom Commission, Deputy Financial Advisor (DFA) DOE and the Project Director.

At the respective Institute level, OPMC functioning under the chairmanship of the Director or his nominee, reviews work-plan and project progress of the participating agency from time to time.

Apart from the above, the project is aided by an international panel of experts who meet once a year.

At the project level there are three *working groups* in the areas of *LAN, WAN* and *Protocols,* which address technical issues of common concern within the project.

**Issues of Common Concern**

ERNET values cooperation and collaboration with industry, user groups, R&D groups, other network builders and service providers in a number of areas for mutual benefits. Modalities could include:

- Joint product development
- Technology transfer
- Consultancy
- Education and Training
- Sub-contracting

**Standards**

Choice of standards for any computer network is an important issue, especially when the standards are still emerging or comparatively recent. Apart from careful selection of the protocol suite, decisions have to be made on functional standards which are needed for implementation. After the implementation, conformance testing and inter-operability testing become key concerns. Performance evaluation forms the last but crucial issue. While ERNET itself has been concerned with these decisions, a national standardisation effort on the above is important to both users and vendors. Considering that ERNET is one of the early networks to adopt OSI, it can provide valuable inputs to national standardisation efforts.

# Format Conversion with the CCF Converter

In the past twenty years the bibliographic world has seen the introduction of a number of computer formats based on the standard ISO 2709. These formats include more than twenty national and regional MARC formats, one international MARC format (UNIMARC) and others such as Unesco's Common Communication Format (CCF). We have also grown accustomed to the introduction of computer programs designed to handle ISO 2709-based records, the most important of which is CDS/ISIS, distributed by Unesco/PGI.

Now Unesco is distributing the CCF Converter, a program for MS-DOS microcomputers which is designed to permit the conversion of records from one ISO 2709-based format to another. While there are conversion modules for commercial programs (such as ProCite's Biblio-Links' and INMAGIC's MARC Adaptor and MULTI Adaptor), until now there has been no general-purpose program that could convert records from any ISO 2709 format to any other format.

## Components for Record Conversion

The conversion of records from one format to another requires two major components: a computer program, or set of programs, designed to perform the record conversion, and a table of conversion equivalents. The latter item, the conversion table, can be produced by anyone familiar with both the source and target formats. A table to convert UNIMARC records to CCF is provided with the CCF Converter, along with instructions that explain the rules for creating conversion tables.

A generalized program of this kind is not as simple as it might seem at first glance. The CCF Converter was originally developed specifically to convert Canadian MARC records to CCF. During that process, analysis of the data elements revealed that the conversion table must accommodate at least these six kinds of conversion:

1. The changing of content designation without content analysis, where there are equivalent elements in the source and target formats. For example, the change from tag 111 to tag AAA, or the change from subfield A to subfield B.

2. The conversion of multiple source elements to a single target element, again without content analysis, made necessary by conversion from a large and detailed format to a small, simpler one. For example, fields 111, 222 and 333 in the source format may all convert to target field AAA, which may or may not be repeatable.

3. The analysis of data element content to decide among alternative actions. For example field 111 may convert to field AAA or to BBB depending on whether the first indicator is 1 or 0, or whether a certain subfield is present in the record or not, or some other distinction within the data itself.

4. Various methods of handling repeating elements, depending on whether the target subfield or the field or neither may be repeated in the record.

5. In the case of the CCF, which identifies groups of fields as segments, the creation of the segments. These play an important role in the CCF. Their direct equivalent in the UNIMARC and a few other MARC formats are embedded records, where a field in the record contains an entire related record.

6. The handling of other kinds of exceptional problems, some of which may require extensive and complex record processing.

## The Conventional Table

The CCF Converter incorporates all of these functions into a series of process codes. There are currently sixteen such codes, and more will be added as the need arises. The conversion table used by the program is an ASCII file which can be created with any text editor or word processor. Within the table each line forms a record which may have up to six fields. These variable length fields, separated by vertical bars, are the following:

| source tag | source subfield | process code | target tag | target subfield | data |
|---|---|---|---|---|---|

The source or target tag may be omitted if it is the same as the previous one. Process codes may be included, but are not required. If any data is provided, it will appear at the start of the specified target subfield. The vertical bars may appear anywhere on the line.

Here is a typical section of a conversion table:

```
    001  |      |    14
 * ------+------+-------------------------------
    010  |  a   |    2   |  100   |     A
         |  b   |    2   |        |     C
         |  d   |    2   |        |     C
 * ------+------+--------+--------+-------------
    020  |  a   |    2   |  111   |     B
         |  b   |    9   |        |
      ... etc ...
```

In this case the first line consists only of a source tag (001) and a process (14). The second line starts with an asterisk so it is treated as a comment; it is included only for the convenience of the person editing the table. The third line contains five of the six permitted fields; only the field containing constant data has been omitted. This line specifies that subfield a of source field 010 must be converted to subfield A of target field 100 using process number 2, a process which specifies that more than one target field 100 may be created if there is more than one source field 010. On the fourth line both the source tag and the target tag are omitted since they have not changed from the previous line. The line could be moved to the left and made more compact, but it is shown as it appears for the convenience of people. Thus lines three and four could optionally appear as

```
010  | a  |   2  |  1000  | A
|b   | 2  |   |  |
|    |    |   |  C
```

but few users would find this format easy to use.

**Running The Program**

The CCF Converter program consists of two files; the execution program itself, and an optional resource file. The latter is an ASCII file which contains the content of all on-screen messages used by the program. Containing these in a separate file allows them to be translated into any language. The conversion program will run without this file, but in that case all messages will appear in English by default.

Since the program is distributed ready to run on any MS-DOS or UNIX microcomputer, the program is easily started with a single command. The first step to give command.

```
TABLE filename
```

where filename is the name of the file containing the conversion table. The second step is to give command where

```
CONVERT file 1 file 2
```

where "file 1" is the file containing the source records and "file 2" is an empty file which is to contain the target (converted records). Any number of records may be in the source file. The file to receive the target records may be created with the operating system, or with the CCF Converter program. The conversion takes a few seconds per record and the program reports the total number of fields and records converted.

Following conversion the program will display the resulting records or print them, or write the display-format records to another file. The display format is tabular, with tags at the left margin followed by the data, although the records exist in the ISO 2709 communication format with its label, directory, and data fields. The program will also accept a file of records which have been keyed in the display format and convert them to ISO 2709 with the INPUT command.

**Future Development**

Although decisions on the future development of the program are the responsibility of Unesco/PGI, recipients of the program have requested a number of changes. Since the program deals only with pure ISO 2709 records, facilities must be added to handle CDS/ISIS records, which depart from the standard in a few minor ways. Several people have suggested that the program should use menus, perhaps with colour, rather than the current commands. And a number of other minor refinements would be desirable, such as having the program create files as it works (for example, empty files to receive target records) rather than requiring that the user prepare in advance the files that will be needed — Peter Simmons in *ASTINFO Newsletter* Vol. 5, No. 3, 1990.

# International Chemical Information Network (ChIN)

The International Chemical Information Network (ChIN) has been launched this year with the support of UNESCO and UNIDO.

The objectives of ChIN are to:

- Encourage co-operation in chemical information among chemists and chemical engineers, and to link them in the international Chemical Information Network (ChIN);
- Promote the development and use of chemical information systems and services, particularly those relating to national development, and to encourage close collaboration of chemical information specialists with researchers, industrial specialists, decision-makers and teachers;
- Improve ChIN members' awareness concerning new developments and applications of chemical information, in particular databases, information systems and information-handling software in chemistry and related fields, through the exchange of knowledge and materials, as well as by facilitating access to commercially available information sources;
- Develop goal-oriented programmes and provide a framework for regional and international co-operative pilot projects on the elaboration and application of information strategies for solving problems which involve chemical sciences and technologies, with priority given to developing countries;
- Propagate the highest possible standards in chemical information whilst recognizing the need for step-wise development towards higher levels of information processing in different fields of application.

## The ChIN Programme

The programme proposed for ChIN includes:

*Permanent ChIN activities*

Introduction and further development of national, regional and international chemical information systems and services will be promoted through ChIN, in particular by:

- The promotion of access to, and the exchange of information and experience on chemistry information sources, methods and techniques;
- Setting up co-operative schemes for the exchange of primary documentation, including core journals, patents, grey literature and translations, among the ChIN members;
- Advising in the building of specialized chemical information systems at the national level and linking them internationally;
- Co-ordination of ChIN members' efforts to ensure compatibility of such information systems;
- Providing links to other organizations and groups working in chemical information and related fields;
- Exchange of information on training programmes in chemical information, co-operation in development of core curricula and methodologies for training users and specialists in chemical information and promotion of recommended training programmes (training of trainers);
- Production and dissemination of information on available services and facilities within ChIN, through the ChIN Newsletters, the ChIN Directory of Co-operating Institutions and Individuals, and the ChIN Special Series on Chemical Information.

## ChIN Pilot Projects

The launching of specific projects for the development, demonstration and dissemination of higher level experience in information processing to serve developmental needs, in particular by providing efficient support for solving research problems and decision-making, will be a strategic part of the ChIN programme.

ChIN pilot projects will be oriented towards specific high priority targets, in particular those which require the joint efforts or researchers, user of research results and chemical information specialists. Projects likely to result in an essential contribution to economic development will be given priority.

Since such projects usually demand high investment in work and funding, the ChIN Steering Committee will make efforts to establish co-operative schemes with interested national and/or international organizations/institutions. ChIN, as a whole, will offer its contribution to the projects in the form of chemical information, and through the dissemination and evaluation of project results.

Pilot projects will either support chemical sciences as such (e.g. an information system on chemical reactions for research and teaching), or catalyse developmental actions (e.g. waste-water treatment information system, an information system for small-scale speciality chemicals production, etc.).

ChIN pilot projects will be initiated by the Chin Steering Committee on the basis of proposals of ChIN members and carried out by specialized groups.

**Membership**

Membership will be open to all institutions and individuals willing to co-operate on a reciprocal, non-commercial basis in the collection, processing and exchange of chemical information, and/or in training, research and development in this area.

Membership will also be open to commercial organizations willing to provide services under special and favourable conditons to ChIN members and, in particular, to users in developing countries.

**NISSAT Newsletter**

*Wishes Its Readers*

*Season's Greetings and Best Wishes*

*for a*

*Happy New Year*

# Electronic Data Processing Posts: Rationalisation of Pay Scales

In the last issue of the *Newsletter* (No. 3, 1990), we reported Government's decision on pay structure of library staff under purview of the Central Government as embodied in the relevant OM of the Ministry of Finance, Department of Expenditure (Implementation Cell).

We now bring to our readers Government's decision on the pay structure for Electronic Data Processing Posts. The revised pay scales take effect from 11 Sept. 1989 as announced vide OM No. F.7(1)/IC/86 (44) dated 12 January 1990 of the Ministry of Finance, Department of Expenditure (Implementation Cell).

*Copy of OM No. F.7(1)/IC/86(44) dated 11 Sept. 1989 issued by Ministry of Finance, Dept. of Expenditure, Implementation Cell:*

The undersigned is directed to refer to the recommendations of Fourth Central Pay Commission contained in paragraph 11.45 of the Report wherein it was suggested that the Department of Electronics should examine and suggest reorganisation of existing Electronic Data Processing posts and prescribe uniform pay scales and designations in consultation with the Department of Personnel. In pursuance of above suggestion, a Committee had been setup by the Department of Electronics in November 1986. After careful consideration of the recommendations made by this Committee, Government of India has decided to introduce the following pay structure for Electronic Data Processing posts:

**Data Entry Operators**

| Sl. No. | Designation of post | Pay Scale | |
|---|---|---|---|
| 1 | Data Entry Operator Grade 'A' | Rs. 1150-1500 | This will be entry Grade for Higher Secondary with knowledge of Data Entry Work. |
| 2 | Data Entry Operator Grade 'B' | Rs. 1350-2200 | This will be entry grade for graduates with knowledge of Data Entry work or promotional Grade for Data Entry Operator Grade 'A'. |
| 3 | Data Entry Operator Grade 'C' | Rs. 1400-2300 | Promotional Grade. |
| 4 | Data Entry Operator Grade 'D' | Rs. 1600-2660 | Promotional Grade. |
| 5 | Data Entry Operator Grade 'E' | Rs. 2000-3500 | Promotional Grade. |

## Data Processing/Programming Staff

| Sl. No. | Designation of post | Pay Scale | |
|---|---|---|---|
| 1 | Data Processing Assistant Grade 'A' | Rs. 1600-2660 | Entry grade for graduates with Diploma/Certificate in Computer application. |
| 2 | Data Processing Assistant Grade 'B' | Rs. 2000-3200 | Promotional Grade. |
| 3 | Programmer | Rs. 2375-3500 | Direct entry for holders of Degree in Engineering or Post graduation in Science/Maths etc.<br>or<br>Post graduation in Computer Application<br>or<br>By promotion from Data Processing Assistant Grade 'B'. |
| 4 | Senior Programmer | Rs. 3000-4500 | Promotional Grade. |

2. All Ministries/Departments having Electronic Data Processing posts under their administrative control will review the designation, pay scales and recruitment qualification of their posts and revise the same in consultation with their Financial Advisers to the extent necessary as per pay structure indicated in para 1 above. Where it is found necessary to revise the pay scale of existing posts, notification will be issued by concerned Ministry/Department and copy of notification endorsed to Implementation Cell, Department of Expenditure.

3. If as a result of above review, pay scale of any post undergoes a change, the pay of existing incumbents will be fixed as per Fundamental Rule 23 with FR 22(A) (ii).

4. The review suggested in para 2 above will be made only with reference to existing Electronic Data Processing posts and it will not be necessary to create all the grades in all Ministries/Departments, as it will depend on requirements of user department. If Ministry/Department proposes to create any grade which is not existing at present it will be done with approval of Financial Advisors and subject to procedures laid down for the purpose.

5. The qualifications etc., indicated against each grade in para 1 above are only illustrative and Departments/Ministries will carry out the review of existing EDP posts in accordance with recruitment rules as already prescribed by them. To ensure uniformity in regard to Recruitment Rules for the EDP posts, Department of Personnel & Training is being requested to devise model recruitment rules which can be adopted by Ministry/Department.

6. The pay structure given in para 1 above is applicable to EDP posts as such and not to the cadres of Clerks, Telephone Operator, Telegraphist, Office Assistant, Stenographers etc. who may be utilised partly or wholly for EDP work. Where there is doubt if any post falls in the category of EDP posts, reference may be made direct to National Informatics Centre (NIC), Ministry of Planning, New Delhi for clarification.

7. As regards the recommendations of Committee for pay scales of the posts of Systems Analyst and above, it has been decided to leave it to user Ministries/Departments/Organisations to determine pay scale in consultation with Financial Adviser, keeping in view level of post, duties and responsibilities, recruitment qualifications etc. relevant to the post.

8. National Informatics Centre (NIC), Ministry of Planning will be asked to evolve the job assignment charts for different levels of Data Entry Operators and Programming Staff, which can be adopted by different Ministries/Department with suitable modification, if necessary, to meet any particular requirements.

9. All Ministries/Department are requested to initiate action on priority basis and results of review reported to Implementation Cell, Department of Expenditure.

Sd/-
(R. D. Bharadwaj)
Under Secretary to the
Government of India

---

## SIS Trivandrum Convention: Programme Details

Programme details are now available for the Tenth Annual Convention and Conference of the Society for Information Science to be hosted by RRL, Trivandrum during 17-19 January 1991.

The Convention theme 'S & T Information Systems and Services; Emerging Trends' will be discussed in six technical sessions as follows:

*Session 1* : Parameters involved in the building of specialized information systems.

*Session 2* : Existing information systems in India — case studies.

*Session 3* : Standard methods in relation to hardware and software.

*Session 4* : Information services offered, processes involved, present practices.

*Session 5* : Marketing of information products — pricing factor

*Session 6* : Concluding session — Recommendations.

Abstracts of papers to be contributed must reach the Secretary, Society for Information Science c/o PID(CSIR), Hillside Road, New Delhi 110012 by 15 December 1990. Full papers must be submitted by 31 December 1990.

**Participation Fee**

| | |
|---|---|
| For Members | Rs 400 |
| For Non-Members | Rs 500 |

Fee to be sent by bank draft drawn in favour of Secretary, SIS, New Delhi. Participants are expected to make their own arrangements for boarding and lodging in Trivandrum. Information may, however, be requested from Shri K.P. Sadasivam, Local Convener, SIS Convention, Regional Research Laboratory, Trivandrum 695 001.

# New Delhi Hosts ICCC 90

Technology for Mass Applications was the theme of the tenth biennial conference of International Council of Computer Communications which was held at New Delhi during 5-9 November 1990.

Prof. M.G.K Menon, Minister of State for Science and Technology, who inaugurated the Conference, recounted the phenomenal development in both computer and communication technologies which have eliminated the barriers between computers and telephones, voice and data, languages and countries; with the advent of multimedia communication, information handling services have been brought to the point where they are needed most. This opens up enormous possibilities in all sectors of the economy and transfer of knowledge to the masses through distributed data processing, networking and remote access. Prof. Menon noted that the type of information required differed from country to country, but in all cases it was essential that computer networks be used for maximum dissemination of information at a low cost to ensure that the benefits reached the man in the street.

In his keynote address Dr. P.J. Tarjanne, Secretary-General of International Telecommunications Union, stated that the convergence of the technologies and functions has moved computers and communications to centre stage where Information has become the third basic quantity after matter and energy. For information to be of any value, it has to be of the right type, at the right place, at the right time and to the right person. Information resource centres in remote location can draw from massive data banks through networking and speed up knowledge transfer at a low cost to ensure the upliftment of quality of life for the masses.

Welcoming the delegates from 51 countries, Conference Chairman Dr. P.P Gupta, Chairman and Managing Director of CMC Limited urged the participants to extend the focus of their interactions beyond the technical sessions to find ways and means to match the needs of the common man with the fruits of information technology.

Mr. N. Vittal, Secretary, Department of Electronics stated that while technology for mass storage is available, innovative and cheaper ways must be found to communicate and provide wider access to this vital information for the development of the masses.

The conference deliberated upon the latest developments in computer communications technology in areas such as Computer Integrated Manufacturing, Intelligent Networks, Video Technologies, Personal Services, Distributed Systems, ISDN, Metropolitan Area Networks and Telematics. The conference discussed ways and means of bringing information technology to the doorstep of the common man by bridging the gap between technology and its mass absorption While several problems and the ground realities still remain, it was noted that the conference marked a step forward towards fulfilling the goal envisaged.

Men and women who have ideals and objectives before them and the urge to achieve them do not wait for the turn of fortune's wheel.

— Jawaharlal Nehru

The man who makes no mistakes does not usually make anything.

— Edward John Phelp

# Recent Publications

*Publishers are invited to send to the Editor for review and noticing their new publications on information industry and technology, librarianship, documentation, archival science, micrography and reprography, information systems and services, science communication, printing and publishing (including electronic publishing, computer hardware and software, etc.)*

**Bibliographic Databases and Networks. Proceedings of the International Conference, New Delhi, February 1989. Edited by S.S. Murthy, Anuradha Ravi, A. Lakshmana Murthy, Defence Scientific Information & Documentation Centre (DESIDOC) Delhi. Tata McGraw-Hill Publishing Co. Ltd., New Delhi. Pages xlix + 342. 1990.**

A highly successful conference both in terms of professional participation and objectives set and achieved. In view of the lasting interest of the subject and its value to the development and implementation of database and networks, it is indeed laudable that the organizers have been able to bring together in one volume the 21 papers presented at the conference and a comprehensive report of the discussions held. Together the *Proceedings* constitute a valuable reference work which should be much in demand for quite sometime to come.

The Editorial Team led by Dr S.S. Murthy deserves to be congratulated on the painstaking effort which has gone into this useful compilation.

The volume has a neat and impressive get-up and presentation, bearing as it does the stamp of one of the very well-known science publishers in the country, namely, Tata McGraw-Hill Publishing Co. Ltd. New Delhi. — RDT.

**Handbook of Libraries, Archives and Information Centres in India, Volume 7, Science and Technology Information Systems and Centres. Editors B.M. Gupta and S.S. Nathan, Aditya Prakashan, New Delhi, 1990, Pages 287, Price Rs 325/-.**

It is now widely realized that all horizontal and vertical advancement in any field of science, engineering and technology is dependent on the information already available. At any point of time, the current knowledge about developments that have already taken place worldwide is the most important input in the research and development (R & D) planning process. However, most Indian scientists and technologists are seriously handicapped in terms of information becoming available to them. They usually get the information of their interest belatedly and they have to make lot of effort to get this information. Because of these limitations, often the information base of Indian scientists is incomplete. Lately, India has been strengthening its science and technology information systems and services. The 7th Volume of the 10 Volume compendium entitled "Handbook of Libraries, Archives and Information Centres in India" edited by Gupta and Nathan deals with the scope, characteristics and accessibility of the information systems and centres currently available in India, in various fields of science and technology. Through the present book the information scientists, librarians and administrators concerned with arrangements to meet the needs of Indian scientists for current information, will come to know about existing sources of information in India and thereby the capabilities and limitations of the existing structure.

The book comprises 36 contributions by more than 56 authors. In the first 35 articles, there is exposition of the ranges of information systems, databases created and services offered by different organizations; the 36th article brings out current status of standardization in information technology.

The book attempts to present systematically the information services being provided by various scientific departments in India. The information activities of National Information System for Science and Technology (NISSAT) of the Department of Scientific and Industrial Research and its sectoral centres such as NICFOS, NICCA, NICMAP, NICDAP, NICTAS, NICHEM and NICRYS, are comprehensively reviewed. Other important institutions and information systems finding prominent coverage include Natural Resources Data Management System (NRDMS), Publications & Information Directorate, INSDOC, DESIDOC, BARC, NICNET, National Management Information System for Science and Technology, Agricultural Research Information Centre of ICAR, Patent Information System, Tata Energy Research Institute Information System and Bio-information System in India.

It is clear from the contents of the book under review that information systems for scientists remain largely inadequate, though a good beginning has been made in the development of computerized information services. Absence of indigenously produced comprehensive sources of information is a big lacuna in the efforts for progress in India. There appears to be a need at the national level for reorganization of information systems and services to optimise the input of resources and enlarge the output. An effective centralized national comprehensive information system for science, engineering and technology is urgently required, and will provide a major thrust to science and technology development in India.

The present book is well produced. It will be a necessary and useful addition to libraries and information centres catering to the information needs of scientists, technologists, decision makers and planners.

— H.C. Jain

**Abstracts of UNIDO Documents on Biotechnology and Genetic Engineering, 1981-1989. Prepared by Industrial Technology Development Division, UNIDO.**

This guide lists UNIDO documentation on biotechnology and genetic engineering in developing countries produced during the period 1981-1989. It is composed of abstracts indexed with the major subject descriptors "biotechnology" and/or "genetic engineering" that are contained in *Industrial Development Abstracts: UNIDO Industrial Information System (INDIS)*. The major subject descriptors used are taken from the UNIDO *Thesaurus of Industrial Development Terms*.

The following material is indexed: major studies and reports, publications in series, and selected articles; reports and proceedings of expert working groups, workshops and seminars; internal studies; and reports related to technical assistance.

The guide consists of three parts; a subject index, bibliographical abstracts, and author index. The microfiche number, which appears at the end of each entry, is the computer access number of the item.

**Developments in the Field of Informatics in Selected Developing Countries (Technology Trends Series). UNIDO, Pages 40. 1989.**

The present report analyses the status and development strategies followed in specific segments of the electronics industry in a group of Latin American and Asian countries (Argentina, Brazil, Mexico, India, the Republic of Korea, Malaysia and Singapore). It is based on previous UNIDO studies and on other documents and reports available on those countries.

The study concentrates on the informatics industry and on components manufacture. Although these branches are rather incipient in the countries considered, they are among the most dynamic segments of the "electronics complex" and seem to offer significant opportunities for latecomer countries. Microcomputers production, for instance, increased in the Republic of Korea at a 90% annual growth rate from 1983 to 1987, and at a 70% annual rate in Mexico between 1985 and 1987. The Republic of Korea recently entered world competition in the field of semiconductors, and captured around 9% of the world market for certain memory chips (256K DRAMs), in 1987.

Interesting developments can also be identified in the six other countries selected for the study. Since the last decade, India is making important efforts in the electronics field, including in the area of minicomputers and semiconductors. Computer sales grew at an average of 70% over 1984-1986. Currently, it is undertaking an endogenous development in the field of supercomputers. Singapore has become one of the most successful international suppliers of computer peripherals and parts, in particular to the United States. Malaysia is one of the largest world producers and exporters of semiconductors. In the case of Latin American countries, Brazil's informatics market is the largest in the Third World; national firms established in the framework of the national informatics policy account for more than 50% of that market. Argentina recently put into execution a policy aimed at fostering local informatics production. Venezuela has been one of the main importers of informatics equipment in Latin America, and reached the highest number of *per capita* computer installations in the region.

The countries selected for this review, have not been based on any specific criterion. This report highlights the basic strategies followed in those countries and their results. It tries to identify common features and to explain the main differences. Certainly, the diversity in the overall paths and in the context in which the electronics industry has been established, makes it extremely difficult to comparatively assess the successes and failures of different countries. In most cases, there are no in-depth country studies, though the interest created by recent developments is beginning to stimulate new and valuable research.

A point of interest is the extent to which the impressive results obtained by some countries in the informatics and semiconductor fields can be interpreted as evidence of "technological leap-frogging", as suggested by some theories on the emergence of a new "techno-economic paradigm" based on microelectronics technology.

**Microelectronics — World Scenario and the Indian Experience. UNIDO. Pages 32. 1990.**

The study prepared under the Regional Project for Strengthening Microelectronics Infrastructure and Capabilities in REMLAC Member Countries, was presented at the meeting of the Consultative Group on Informatics Technology for development Buenos Aires, Argentina in December 1989.

The document gives an overview of the world scenario in microelectronics and presents a blue print for growth of microelectronics in India. In this connection it draws considerably on the report of the Indo-US Joint Scientific Committee (JSC) which submitted its report in June 1988.

**Directory of Professional Bodies. Govt. of India, Department of Science & Technology, New Delhi. Pages 272. 1989**

In publishing this volume, DST has made a useful contribution to the process of progress and development by bringing together information on the professional bodies and learned societies in India in various subject fields. These societies provide expert inputs to various sectors of our economy in several ways — by identifying thrust areas in science and technology, and measures for technology development and for promotion of S & T in general. They play a key role in organizing national and international conferences in emerging and frontier areas. Here their initiative and involvement are particularly noteworthy.

The compilation lists 321 societies, academies and associations. For each entry, information is given on budget and membership of the society, its history, library facilities, publications brought out, meetings and conventions organized, honours and awards instituted, fellowships awarded and other regular activities. The date of establishment of the society is given in parenthesis at the end of the entry.

The Directory will no doubt be useful to the scientific community and help encourage interaction among the societies in allied fields, apart from acting as a catalyst in socio-economic development. There are several omissions in the compilation which hopefully would be made good in a future edition.

**Human Resources Development: Analysis of 225 Technical Cooperation Projects with Reference to Strengthening of National Industrial Training and Development, and Transfer of Technology Capabilities. UNIDO. Pages 22, Dec. 1989.**

This study analyses UNIDO's technical cooperation in human resource development and transfer of technology, which are two of the main planks of UNIDO's Medium-Term Plan, 1990-1995 (GC. 3/17, paragraphs 24-34 in particular). The link between them is clearly defined in that document.

The primary objective of the human resource development programme of UNIDO is to assist developing countries in building up coherent and sustainable systems for upgrading local technological skills and managerial and entrepreneurial capabilities and integrating them into the industrial development process, in accordance with the national development strategies and priority plans of those countries. The emphasis is on linking human resource development and the development and transfer of technology. Under the heading "Development and transfer of technology", the importance of the human resource in the development of national technological capability is repeatedly stressed.

In order to analyse the different forms of UNIDO training assistance and their possible impact on strengthening of national training and technology development capabilities, 225 projects received between 1 January 1988 and 1 September 1989 by the Project Appraisal Section have been classified and examined on the basis of their primary functions (this concept is defined in the *Guidelines for Project Design* of UNDP and UNIDO):

- — Fellowships and study tours;
- — Institution building;
- — Group/direct training;
- — Workshops/seminars.

The study concludes that if the objective of UNIDO's industrial training is to enable developing countries to master specific technologies, particular attention must be given to forms of assistance which can have the greatest impact in this area, namely, in the short term, fellowships and study tours and national direct or group training projects and, in the medium and long term, the establishment and strengthening of training institutions contributing to national industrial development. However, the assistance must be selective and integrated. There are 47.2 per cent of the projects that do not relate to any particular industrial sector (annex 1, p i) and it is *a priori* difficult to distinguish the subsectors on which assistance is focused (annex 2, pp. ii-xvii). It would be necessary to make sure that the training programmes set up by UNIDO (the techniques and subsectors involved) and the subsectoral priorities of the developing countries for which they are intended coincide. In other words, emphasis should be placed on "tailor-made" programmes, rather than "ready-made" programmes, and these should be defined in the light of the Medium-Term Plan, 1990-1995, which highlights human resource development and development and transfer of technology, as well as the link between these two forms of assistance, as a UNIDO priority.

**Bibliography of Documents Relating to the Development and Transfer of Technology. UNIDO. Pages 110, December 1989.**

This document covers sales publications, working group papers and other documents issued by the Department for Industrial Promotion, Consultations and Technology between 1 September, 1987 and 31 October 1989. The information was compiled from the UNIDO Industrial Development Abstracts (IDA) database.

The language versions in which each item was issued are indicated at the end of each entry by the following abbreviations: ARAB (Arabic), CHIN (Chinese), ENGL (English), FREN (French), RUSS (Russian) and SPAN (Spanish).

Information on the technical subjects dealt with in the publications is obtainable from the Industrial and Technological Information Section, UNIDO.

**Home-scale Processing and Preservation of Fruits & Vegetables. CFTRI, Mysore, pp 76, Price Rs 15.**

The Central Food Technological research Institute (CFTRI), Mysore, has recently brought out the revised and enlarged edition of 'Home-scale Processing and Preservation of Fruits & Vegetables'. Aimed at creating an awareness on the application of modern methods of preparing juice/squash/nectar, canning, drying/dehydration and fermentation at home level, the booklet is expected to be very useful for catering/home-science institutions, hotels, small-scale industries, extension workers, cooperative bodies and housewives. The book gives the broad principles of fruit and vegetable preservation and also the general guidelines for preparation of various products including certain specialized items. Addresses of manufacturers of equipment useful for home-scale processing are also included in the book.

**Directory of Online Databases Relevant to Electrochemistry. CECRI, Karaikudi.**

The Library and Information Sciences Division of the Central Electrochemical Research Institute (CECRI), Karaikudi, has brought out a *Directory of Online Databases Relevant to Electrochemistry*, containing information on 105 online databases and 16 CDROM databases relevant to chemists/electrochemists. Each entry contains information about a database such as geographical coverage, period covered, type of database, producer(s) of the database, vendor(s), equivalent print products, key terms, main subject, etc. At the end, the following indexes are provided for locating the information fast: producer index, vendor index, print product index, database type index, subject index and keyword index.

The above publication was released by Dr K.V. Mariwala, Chairman, ICMA (Western Region), on the occasion of the CECRI Foundation Day and the Brain-storming Session on Electrochemicals on 25 July 1990.

# News and Events

**Computers for SSI Applications — CEI Seminar**

Prof. T. Viswanathan, Director, Indian National Scientific Documentation Centre, New Delhi, delivered a keynote address on 'Planning and choosing a personal computer system for SSI applications' at the one day seminar-cum-exhibition, organized recently by Confederation of Engineering Industry (CEI), Pune. In his keynote presentation, Prof. Viswanathan spoke at length about how the small scale industrialists should plan and choose a personal computer system for application in their units. He said that while computer can be helpful for traditional applications like marketing, manufacturing and accounting, the SSI units could use them for electronic and voice mail, documentation and filing and even for telex, facsimile videotext and on-line database access. He further added that gadgets such as telex cards and fax cards are available at low cost, which can be used to make a computer function like a telex machine or a facsimile machine. He also discussed the variety of computers available, their suitability and applications in SSIs.

**Indian-French Software Cooperation Project**

A major project has been envisaged with the objective of organising the development of software in India initially for the French enterprises and later for other European countries, according to the Embassy of France in New Delhi. The purpose of the project is to create an Indian-French structure, with two settlements, one each in New Delhi and Paris. The two offices will be linked by a permanent satellite communication digital line (64 KB per second, with a possibility of increasing up to 2 MB per second).

The project will offer the following services to French and Indian enterprises:

- assistance to search a partner in the other country.
- assistance for the set-up of the legal and economic mechanics between two partners
- technical infrastructure making it possible, for both enterprises, to exchange data, voice and image through the permanent digital line.

The structure will sell its services to the enterprises.

The French operators of the structure will be Conseil en Systems d'information (CESIA), a state consulting firm specialised in information systems. A large number of French enterprises have shown interest in the project, says CESIA in its project report. The first estimate of the market with large French companies shows that cost of software developed for them in India will exceed 100 million francs, in the first year.

The main investment for the earth station in France will be funded by France Telecom, which will rent it to CESIA. It is expected that the corresponding earth station in India will be set up by Videsh Sanchar Nigam Ltd. (VSNL). — *MAIT News*, V 3, No. 4, 1990.

**6 ICML**

The Medical Library Association of India in cooperation with the World Health Organisation, the National Medical Library and the Indian Council of Medical Research sponsored the 6th International Congress on Medical Librarianship and Pre-Congress Seminar during September 24-28, 1990 at New Delhi.

A novel feature of this Congress was a Pre-Congress Seminar entitled "Health Science Information; Impact of Technology Developments on its Production, Analysis, Distribution and Consumption" The Sub-themes of this Pre-Congress Seminar included: The Roles of Publishers/Distributors; Health Sciences Librarians; Computer/Information Technology Personnel; and Consumers/Users.

**CONSAL VIII**

The 8th Congress of Southeast Asian Librarians (CONSAL VIII), organised by the Indonesian Library Association and the National Library of Indonesia (11-14 June 1990, Jakarta), gathered about 700 participants from CONSAL member countries.

Under the general theme of the Congress: *New challenges in library services in the developing countries,* Dr D.E.K. Wijasuriya, Chairman of IFLA's Standing Committee for Asia and Oceania, presented IFLA's Core Programme for the Advancement of Librarianship in the Third World. A number of technical sessions dealt with subjects such as: information technology, library and information services, library and information resources, manpower development, and preservation and conservation.

The recommendations of the Congress called upon the national library associations to exert greater efforts in:

- strengthening professionalism of library/information specialists
- improving/reinforcing education and training of library/information specialists, using new and more innovative approaches

- increasing the awareness of the importance of library and information activities.

The participants of the Congress further stressed the importance of strengthening the institutional mechanisms at national level and promoting regional co-operation.

CONSAL IX is scheduled to take place in Thailand in 1993.

### Access to Scientific Literature in Developing Countries

As an answer to the problem of access to scientific information in the developing countries, a Programme to Promote Access to Scientific Literature is being designed and implemented by Unesco. The Programme is a compound of several convergent actions and methods such as:

- co-ordination of book donation programmes;
- development of library networking and resource sharing;
- use of new technologies such as CD-ROM and telefax for document delivery purposes;
- improving the management of document delivery services.

Unesco, through its General Information Programme, has already been involved in activities for the improvement of scientific document delivery; such activities concern:

- core lists of journals in the life sciences and engineering (1979) and in the earth sciences (1986); a joint IFLA/Unesco Programme for the Universal Availability of Publications (UAP) initiated in 1982; a Pilot Project for Literature Delivery in Asia and the Pacific with the assistance of the National Library of Australia (1989); a *PGI Guide to CD-ROM* published in 1988; an International Conference on the Use of CD-ROM, held in Khartoum, Sudan, in 1990 with the assistance of Unesco; an International Expert Meeting on Training Users organised in Helsinki, Finland, in 1990 by Unesco in co-operation with the Helsinki University of Technology.

The Unesco Programme will be further developed during the coming five years and activities are foreseen by PGI as follows:

- further development of the Document Delivery Project in Asia and the Pacific. This will be discussed during the ASTINFO Consultative Meeting in 1991.
- In co-operation with the International Centre for Theoretical Physics (ICTP) and the Third World Academy of Sciences (TWAS), establishment of a database on book and journal donation programmes. These donation programmes enable institutions and individuals with surplus documentation, to make them available to needy information centres particularly in the developing countries; and, establishment with ICSU of a Co-operative Network on Science and Technical Literature for Developing Countries;
- promotion of CD-ROM publishing. An International Seminar on the Use of CD-ROM and Other Optical Compact Media for the Transfer of Scientific Literature is planned for 1991;
- support for the design and implementation of inter-university information systems and several financial contributions to provide equipment to libraries and training to library and information personnel in document delivery techniques are also foreseen.

### Fifty-Sixth IFLA General Conference, Stockholm

One hundred and twenty countries were represented at the Stockholm Conference (20-23 August 1990), "the biggest conference in the history of IFLA" according to Paul Nauta, Secretary-General of IFLA. The 1990 Conference theme was *Libraries—Information for Knowledge.* Topics covered by the Conference included:

- the role of libraries in providing information for developing knowledge;
- the role of the library in educating the people in co-operation with popular movements;
- methods and techniques for facilitating the use of libraries;
- the multimedia library — new ways of transmitting knowledge and skills;
- the fight against illiteracy — the role of the library in developing and developed countries.

The Stockholm Conference offered an extremely rich and stimulating professional forum of librarians from all over the world. The next IFLA Conference will be held in Moscow from 18 to 24 August 1991.

### CCF

As part of Unesco's ongoing maintenance and improvement of the Common Communication Format (CCF), the recent meeting of the Ad Hoc Working Group on the CCF (Unesco, Paris, 11 to 13 June 1990) has made significant progress towards the extension and simplification of the format, in accordance with the recommendations and suggestions made at the First CCF Users' Meeting held in Geneva in April 1989.

As regards simplification, the major new features agreed upon are the following:

- five specialised title fields which serve the same purpose will be reduced to a single field. Specifically, the current fields 220 (spine title), 221 (cover title), 222 (added title page title) and 223 (running title) will be removed and field 230 (other title) will serve as the replacement of all of these. Provision will be made to encode the type of title for those who wish to preserve this information.

- four fields which may be used to show vertical relationships between segments will be reduced to a single field. Specifically, fields 081 (segment linking field: vertical relationship from monograph), 082 (segment linking field: vertical relationship from multi-volume monograph) and 083 (segment linking field: vertical relationship from serial) will be removed, and field 080 (segment linking field: general vertical relationship) will serve as a replacement of all of these.
- a new field 088 (record to record linking) will be developed specifically to link one record with another. Since this field can occur in the primary segment, it permits the creation of a record link without the need to create a secondary segment.

An addendum to the *CCF, 2nd ed.* (PGI-88/WS/2), containing the descriptions of the changed or new fields, is being prepared.

With respect to the extension of the CCF, the Group agreed to produce a new edition of the CCF in two separate volumes; the CCF/B, like the present CCF, will be for descriptions of bibliographic items and will include patents, standards, cartographic materials and research reports; the CCF/F will contain fields used to describe factual entities such as projects, institutions and persons. Priorities for further future extensions of the CCF have been set up by the Group as follows: description of technologies, company data, information systems and services, databases, software, events, training curricula, recorded sound and image.

The principle guiding the extension of the CCF is that, whenever possible, fields shall be used for more than one purpose and for different entities when there is no need to restructure the field concerned. Otherwise, new fields shall be established while maintaining conciseness of the format and coherence of the tagging scheme.

According to the time-table established by the Group, it is expected that the new two-volume edition of the CCF will be published during the first quarter of 1992.

### Communication, Information and Informatics — New PGI Division

The Unesco Director-General has decided on the creation of a new Sector — Communication, Information and Informatics (CII) in the PGI. The new PGI Division will be a merger of the former IPS/OPS and IPS/PGI staff. Mr Wolfgang Lohner has been designated Director of the Division of PGI *ad interim* and Secretary of the Intergovernmental Council.

### Rewritable Magneto-Optic Disks

The ability to read, write and erase at will has been realized in rewritable magneto-optic discs.

The ever increasing memory capacity of computers has made it imperative for storage media to keep pace. Emerging magneto-optic technology has opened up exciting possibilities in this sphere. Over the years storage technology has developed from holes punched in paper tapes or cards to infinitesimally small regions of magnetism on recording tapes and related media to microscopic, light-scattering bumps embossed in a compact disk. All along the search has been for greater storage capacity and faster access time with a high degree of reliability.

Though magnetic media are still in widespread use, optical storage offers several advantages. The most important of these is the much greater data density whereby information can be stored compactly in a much smaller space. Being extremely durable and with no chance of a catastrophic "head crash" they are an attractive proposition. CD-ROMs have proved useful as an easier method of distributing published material. However data cannot be written to or erased on CD-ROMs. WORM (Write once read many) disks allow data to be written by users after which it cannot be written into again. The ability to read, write and erase at will while retaining all the advantages of optical storage have been realised in Rewritable Magneto-Optic disks.

Magneto-Optic technology combines the erasability of conventional magnetic storage devices with the ultrahigh capacity, non-contact, no head crash and removability features associated with optical storage devices. In magneto-optic devices a laser beam is used to read, write and erase magnetic information. The write/erase mechanism of magneto-optic (M-O) system is based on a thermomagnetic process whereas reading data is based on the magneto-optic phenomenon called Kerr effect.

A major advantage of magneto-optic disk is its removability. Due to the noncontact method of recording and the presence of a 1-2 mm transparent cover over the information surface layer, erasable magneto-optic disks are unaffected by dust, wear and other tribology problems that plague conventional magnetic media. Thus they are sometimes called "removable Winchester" devices and can be used for on-line as well as offline, back-up and data-distribution applications. Since the coercive force to flip a bit is very high at room temperature, there is very little chance of erasing data accidentally.

Efforts to formulate standards on erasable magneto-optic disks have been undertaken at the international level by ISO/IEC Joint Technical Committee (JTC)1. Working Group (WG) 2. of its Sub Committee (SC) 23: Optical Digital Data Disks has been given the task of formulating standards on 130 mm ($5^1/_4$") and 90 mm ($3^1/_2$") Rewritable Optical Disk Cartridges. It has so far brought out Draft International Standard DIS 10089 dealing with 130 mm rewritable optical disk cartridge and Draft Proposal DP 10090 dealing with 90 mm rewritable ODCs. In the national sphere the recently formed Sectional Committee of BIS, LTD 37 Computer Media has constituted an expert Panel to formulate standards in this field. — *IT Standards*, Vol. 3, No. 2, 1990.

### The Pen — Mightier than the Keyboard?

A recent nosedive in PC sales growth figures has sent computer manufacturers racing to the marketplace with the next big innovation. The products they will be unveiling within the next couple of years, however, look backwards from the age of the keyboard to a much older communication tool — the pen.

The epidemic rise in computer use has to date taken place mainly in the office. An emerging generation of pen-based computers which can recognise (block printed) handwriting, may mean that non-traditional users, from nurses and sales representatives to freight train conductors, will be catapulted into the microchip age.

Several companies are now preparing to launch notebook-sized computers which can be used for any job that requires filling out forms or composing brief memos.

The new computers — aiming at a potential US$3 billion market — take advantage of recent advances in computer screens, microchips, and software. When the "pen" touches the screen, it picks up voltage conducted by a special coating on the screen. A microprocessor measures exactly where, and in what order, each pen stoke is made. Then, the chip translates the data into digitized characters. That enables the computer to identity text and numbers with 95% accuracy.

Once the information is recorded, it can be sent via modem to computers back at the office. By capturing information correctly the first time, billing and other errors caused by sloppy paperwork should be greatly reduced.

An additional market may well exist among executives who could carry a slim computer tablet into meetings, run a few numbers on a spreadsheet, and later transfer data back to computers in the office. The pen-based computer may also one day be a popular add-on to the desk-top machine, as a replacement for the keyboard. In all cases, one of the vital assets of the new machines is that they can be used with virtually no training.

One such machine, produced in the USA and already in the shops, retails at US$ 1,595. — *Business Week*, May 1990.

### IDRC Manual for Records in Bibliographic Information Systems

The International Development Research Centre (IDRC) has published a set of guidelines for creating and maintaining a bibliographic information system using microcomputers. The manual contains a database design using CDS/ISIS (Mini-micro version) as the example software. The main section is a field-by-field guide, with rules for the selection and entry of data in the proposed record structure. Two diskettes containing the CDS/ISIS (Mini-micro version) and INMAGIC record structures and supporting files, as well as a sample database, are included.

### Management Ratios of Industrial Information Services

The work and efficiency of a company or organization's information service can be measured by the same methods as the organization's other functions. A successful management ratio system is an important part of the follow-up of an information service's achievements, according to the Fédération Internationale d'information et de Documentation (FID), publishers of this new report.

*Management ratios of industrial information services* studies the use and effect of management ratios in the successful management of company information services. The report's aim is to give a general view of how management ratios are formed and used, as well as directives and suggestions for management ratios of industrial information services.

Copies of the 40-page report cost 80 Dutch guilders (plus 22.50 Dutch guilders handling charges), with a 25 per cent discount on the sales price for FID members and affiliates. They can be obtained from: FID Sales Department, PO Box 90402, 2509 LK The Hague, The Netherlands (TP + 31 60/31 40 671; TX 34402 kb gv nl; Fax + 31 70/31 40 667).

### Asian Food Analysis Network

A network with the objective of spreading information on food analysis in the Asian region has been formed. The Asian Food Analysis Network (AFAN), which will also encourage interaction and collaboration between food analysis, has come about as a result of the Symposium on Food Analysis in Developing Countries, held in Brisbane, Australia in August 1989. Food analysts from various Asian countries attending the symposium expressed a need for continuing interaction, which could best be met by forming a network.

Initial steps in pursuit of the network's goals will include: (1) the preparation of a list of members, including their interests and analytical expertise; (2) the organization of meetings on food analysis which may also include a hands-on workshop, and (3) the possible provision of "test samples" which could be sent to various laboratories in the region.

Those interested in joining AFAN should write to the network's Co-ordinator, Dr. J. Howard Bradbury, Botany Department, Australian National University, Canberra ACT 2601, Australia. — *Agricultural Information Development Bulletin*, Vol. 12, No. 2.

### Revised *INFOTERRA* Thesaurus

Planned for publication later in 1990, the third edition of the *INFOTERRA* thesaurus will be an improved aid for "coming to terms with the environment". Users of the current thesaurus, say its producers, the United Nations Environment Programme (UNEP), will find a number of changes which increase the usefulness of this reference tool. Terminology has been updated, presentation revised and scope deepened.

Like its predecessors, this third edition is intended primarily for use by INFOTERRA National Focal Points (NFPs) when specifying the areas of expertise available during the registration of sources of environmental information in their own countries, and when searching for relevant information sources in response to queries received. It will, however, be easier to use.

Improvements will also make the thesaurus helpful as a guide for indexing and cataloguing documents relating to the environment, especially in smaller collections.

The third edition retains the established format; its net increase of 29 terms should be viewed in the context of a turnover of more than 400 terms which were added, deleted, separated or merged in the process of revision. The six years since publication of its predecessor have seen the emergence of many new environmental concerns and concepts, which are reflected in new terms such as "global warming".

The third edition of the thesaurus will be distributed free of charge to all INFOTERRA National Focal Points, and will be available for sale to other interested users. It will be used for re-registration of sources for a new edition of the *INFOTERRA international directory of sources*, to be published in 1991. — *INFOTERRA Bulletin*, Vol. XII, No. 2, 1990.

### INTIB Draws on Commercial Databases

The Industrial and Technological Information Bank (INTIB) of the United Nations Industrial Development Organization (UNIDO) has widened the services it offers to members of its global network through agreements for access to two important commercial databases.

Regional and national INTIB Focal Points will now be able to draw on the information resources of the Food Science and Technology Abstracts (FSTA) and METADEX databases. INTIB will receive the databases on magnetic tape and transfer them to diskette using ISIS software, to be run on PCs. The owners of the two databases have agreed to provide monthly updates free of charge, for a two-year trial period.

FSTA is the machine-readable version of the journal of the same title, published by the International Food Information Service. It contains abstracts on all fields of food science and technology. More than 1,800 periodicals are regularly scanned to make up to current total of over 350,000 items, with 1,700 references added monthly.

METADEX is the database of *Metals abstracts*, published by Materials Information. It covers the alloys, intermetallic compounds and metallurgical systems of ferrous and non-ferrous metals, focusing on materials, properties, processes and products. By early 1989, METADEX contained 845,000 records; 4,000 are added each month.

### Databases on Library & Information Science

IASLIC has successfully initiated the Project on building up a bibliographic database on Indian library & Information science literature, with the support of NISSAT. The data for 1987, comprising 396 records has been transferred to machine-readable form. A by-product of the database is the 'Indian Library Science Abstract' (ILSA), being brought out by IASLIC since 1967. Using the laser print output from the database, ILSA for 1987 has now come out in new attractive format, and includes an intensive PRECIS index. Updating and retrospective conversion of ILSA records is also contemplated.

### Ivy Systems' LibrA

LibrA, a useful and interesting software package, is an addition to the indigenous software packages currently developed in India. While other packages are oriented to IBM PC compatibles, LibrA is on Apple Macintosh family of computers.

LibrA exploits the simple user interface and the networking facilities available in Macintosh. It is simple to use, multi-user and brings the professional staff of the library and the library users closer through an E-mail facility. Further, LibrA permits creation of records for both print and non-print items (microform, machine-readable form, A-V etc.) and is also multilingual. If a library has a wide ranging collection in different languages, Indic, European and non-European languages (Chinese, Japanese), records can not only be created but also can be retrieved in these languages. This feature, it is believed, has not been offered in other library packages on personal computers.

Keeping in view the basic objectives of Library automation, namely, to enhance the use of a library, LibrA has been divided into five subsections which work in an integrated fashion. These are: Acquisition, Cataloguing, Circulation, Serials, On-line retrieval, and Administration

The Administration section facilitates customization and controls the working of all the other subsections.

LibrA is presently used in the Shanta Rakshita Library, Central Institute of Higher Tibetens Studies, Saranath, Varanasi.

Apart from the automation of all the normal house-keeping operations, a unique feature of LibrA is the facility it offers for the creation of an integrated database of the library's holdings. This database could include not only macro level documents, but also analytical entries for chapters/parts/sections of monographs, journal articles, conference papers, etc., with annotation/abstracts, information on products and processes and such other micro level items, irrespective of their physical forms. This integrated database is available on-line to users to search for their information requirements. This feature is particularly useful to special libraries to develop project information files, local documentation and information services, etc.

In addition to these, LibrA facilitates circulation services including interlibrary loan, routing of current issues of journals to select members, SDI, regular indexing and abstracting services, literature search, etc. For further information, contact Ivy Systems Limited, E-5, Qutab Hotel, New Mehrauli Road, New Delhi-110 016.

## CODIN Launched

India's first computer-based information service on electronic components was launched on September 11, 1990.

The Minister of State for Science and Technology, Prof. M.G.K. Menon, inaugurated the system called CODIN, which would make available technical information of about 3000 components to professionals.

Speaking on the occasion, Prof. Menon stressed the need for indigenous production of all components required for various industries.

He said it was essential to develop information base as it would help decision makers. designers and manufacturers to act without any delay.

He also stressed the need for efficient testing facilities and standardisation of products manufactured in India. Quality control was essential for the Indian-manufactured products to compete in international markets, he added.

## Centre for VLSI Design with UNIDO Assistance

Local development and production of electronic equipment can be promoted through a national capacity to design, prototype and manufacture very large scale integrated (VLSI) circuits.

With this in mind, UNIDO has begun executing a $2.5 million project, financed by the United Nations Development Programme, to assist the Government of India's Department of Electronics (DOE) in establishing a Centre for VLSI Design and Prototyping, which is expected to act as a focal point for VLSI design and to co-operate with research laboratories, micro-electronic component manufacturers and educational establishments. The project is part of a much larger government strategy aimed at raising the level of Indian electronics products to a level where they can compete internationally. At present, approximately half of the semiconductors produced world-wide are in the form of micro-electronic devices. In contrast, micro-electronics production in India amounts to only 0.5 per cent of overall electronics production.

Large scale and very large scale integrated circuits (LSI/VLSI) are recognized as vital ingredients of contemporary electronics equipment. This area has recently witnessed the emergence of application specific integrated circuits (ASICs) as the fastest growing (annual growth rate of 25 per cent in world markets) segment of the semi-conductor industry which itself is expected to grow at an annual rate of approximately 15 per cent in the 1990s. Availability of powerful work stations and computer-assisted design (CAD) tools have enabled the design of ASICs to be separated from the silicon foundry which can even be in a different country.

Taking advantage of this development, the Department of Electronics has embarked on a comprehensive programme for promotion of the use of LSI/VLSI and ASICs, with the focus on design. A three-level framework consisting of nodal centre for VLSI design at DOE, level II semi-custom design centres at universities and laboratories, and level III CAD awareness programmes at engineering colleges has been approved and is under establishment. In addition, DOE is setting up 10 LSI/VLSI design centres to cater to the needs of the electronics industry.

The Centre for VLSI Design and Prototyping will act as a national resource centre for VLSI/ASIC design, testing and software development. The Centre will periodically offer short training courses aimed at bringing staff from the 10 design centres as well as the level II institutions up to date. It will also serve as an interface between the designers and silicon foundries in India and abroad.

The present project will focus on training the staff of the Centre through fellowships and hands-on training by consultants. These consultants will also assist with the installation of equipment worth $1.2 million and provide advice on design projects. They will also advise on matters of concern to the overall programme.

### MINISIS Version H

A new and improved version of the MINISIS software is due to be made available late in 1991 by the Canada-based International Development Research Centre (IDRC). The update—dubbed Version H—will be able to run on microcomputers (PC XT/AT) or 100 per cent compatible) as well as the HP 3000 Series minicomputer. It will provide a totally integrated relational database system with a userfriendly interface.

A special feature of Version H will be a 4GL language development tool called the Application Specification Toolbox (AST). The Centre's Computer Systems Group (CSG) will use this to develop applications for version H; it will subsequently be offered to users to enable them to develop their own or modify existing applications.

Applications currently being developed by CSG are: the Standard MINISIS Application (SMA); the Inter-Agency Development Research Information System (IDRIS), and the Integrated Library System (ILS). SMA will incorporate all of the functions of MINISIS Version G.—*MINISIS newsletter*, No. 1, 1990.

### ICSTI International Symposium

To celebrate its 40th Anniversary, the International Council for Scientific and Technical Information (ICSTI) announces an International Symposium *Squaring the Information Circle* hosted by the Institut de l'information scientifique et technique du Centre national de la recherche scientifique (INIST/CNRS) during 13-15 May 1991.

*Topics:* Changing roles in information transfer; new relationships between publishers, database producers, host systems and users; new products for new needs; role of S&T information in scientific policy making.

### Sysman Computers: Projects Implemented

Sysman Computers P Ltd., Bombay report implementation of two projects in the field of Computerisation of large Databases and Library Management. These are 1) Computerisation of CHEMTECH databases, and 2) Computerisation of library for MTNL.

1) *CHEMTECH Databases* — Sysman Computers and CHEMTECH Foundation have jointly developed two large databases, namely, Environmental database and Industrial database.

The Environmental database contains data on over 10,000 industrial chemicals. Each chemical data is divided into 8 main groups and 89 sub-groups. The major groups are:

- — Identification and Usage
- — Hazardous ingredients
- — Physical data
- — Fire and explosion hazards
- — Reactivity data
- — Toxological properties
- — Preventive measures
- — First aid

These 8 Main groups are further divided into 89 sub-groups. Each sub-group provides information on a specific trait of a chemical such as Road transportation, Effect on skin or inhalation, etc. The total record length of each chemical record is about 35 KB. The database contains all information as required by Department of Chemicals and Department of Environment.

The Industrial database will finally have data on over 6000 industrial units engaged in chemical, petrochemical and allied fields. The major modules in this database are

- —Company information
- —Location information
- —Product information
- —Raw material information
- —Collaboration information
- —Export/Import information
- —Personnel information

Attempts are being made to collect maximum data for each Company. Currently, data on 500 companies is available. A number of reports can be generated based on any combination of data as per requirement.

Software for both these databases are developed in UNIFY RDBMS on UNIX operating system with financial assistance from Department of Petro-Chemicals, Government of India. Any member of Foundation or other interested person can access the databases on payment of nominal fee. Efforts are on to provide these databases on CD-ROM.

2) *Computerisation of Library for MTNL* — Library management at MTNL has been computerised using software developed in FOX-BASE database on MSDOS and NOVELL LAN in multiuser environment. At present it is fully implemented at Regional Telecom Training Center of MTNL at Bombay. The future plan is to computerise all other libraries of MTNL and link them all at each city using WAN/LAN.

The system takes care of issue, return, re-issue, waiting list for both books and periodicals. It also provides for synopsis for any book or article. All departmental circulars are also provided in the system. The system prints reminders and intimations. Over 25 reports can be printed or displayed on screen. The system can search any book against a name or part of a name anywhere in the title or author.

The system is fully on-line and implemented under LAN. Further inquiries can be made at SYSMAN Computers P Ltd, 7 Habib Terrace, Dr. Ambedkar Road, Lalbaug, Bombay 400 012.

### Dictionary of LIS Professionals

A biographical dictionary of library pioneers, librarians, teachers and information scientists who have contributed to the development of the profession is proposed to be brought out by the Central Institute of English & Foreign Languages, Hyderabad.

Professionals who have crossed the age of 60 years are requested to cooperate in this project by supplying the following information with a passport size photograph: Date of birth — parentage and childhood, academic vitae, experience/service, contribution to the profession, recognitions and awards, address, phone number, etc. and references for further reading.

The above information may be sent to Shri L.S. Ramaiah, Librarian, Central Institute of English & Foreign Languages, Hyderabad 500 007.

### Informatics Appointed Agents for BLDSC

The British Library Document Supply Centre, U.K. (BLDSC) Boston Spa have appointed Informatics (India) Pvt Ltd, Bangalore as their official agents to promote BLDSC publications and CD-ROM Products, international loan services and photocopying services in India. For details on how users in India can avail themselves of these services, contact Informatics (India), PB No. 360, No. 87, 11th Cross, Malleswaram, Bangalore-560 003.

### Ulrich's Directory on CD-ROM

Ulrich's International Periodicals Directory comprising more than 72,000 regularly issued periodicals + 46,000 irregular serials is now available on CD-ROM. Cost £ 360/- (quarterly updates).

### EASYNET In India

EASYNET is now available to subscribers in Bombay, Bangalore, Hyderabad, Madras, Pune and New Delhi. Through the *Videsh Sanchar Nigam Ltd* (VSNL), connection can be made by a local telephone call to EASYNET, which provides access to more than 1,500 databases, both bibliographic and non-bibliographic. By adding 2 modems to your personal computer-phone system, plus communication, annual password, and database charges, you can enjoy online, user friendly access. Dedicated lines are also possible. EASYNET includes 12 database hosts (vendors) such as DIALOG, BRS, HW Wilson, NEWSNET, and others.

### IASLIC XIV National Seminar

The XIV National Seminar of the Indian Association of Special Libraries and Information Centres, hosted jointly by the Department of Library & Information Science and the Library of the University of Mysore was held during 14-17 Nov. 1990.

The seminar theme was: 'Status and Authority of Library Profession in Library Management.' Proceedings will be reported in the next issue.

### EEC Bursary for Dr A. Lahiri

Dr A. Lahiri, Jt. Adviser NISSAT (DSIR) has been awarded a senior scientists' Bursary under the Indo-EEC Programme for a period of six months. Dr Lahiri will work with EURONET-DIANE, Luxumbourg on Development of an Indian model for database services. He left for Luxumbourg last October.

## IMPORTANT

## NISSAT Newsletter : Mailing List Revalidation

In order to update our mailing list we ask you to fill in the form below and return it by 31 Jan. 1991.

To ensure the most efficient use of our resources, **we wish to remove from the mailing list those who do not reply.**

We would also like to know what you think of the *Newsletter*

Please mail the form to : Dr. A. Lahiri, Jt. Adviser, NISSAT (DSIR), Technology Bhawan,
New Delhi 110 016

Cut here

Cut here

Cut here

**Institution/Library/Name:**

**Address:**

**Your Comments:**

Cut here

R.N.-34608/78
RNI New Delhi

Box

ISSN 0970 - 0188
Jan - Mar 1991

91/

# NISSAT
NEWSLETTER

y Organ of National Information
stem for Science & Technology
Department of Scientific &
Industrial Research, New Delhi.

NISSAT

NEWSLETTER

Vol. 10 No. 1 Jan.-Mar. 1991

**Editorial Committee**

Dr. A. Lahiri
Jt. Adviser (NISSAT)
Department of Scientific & Industrial Research
New Delhi-110016

(Smt) S. Ravindran
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri B.G. Sunder Singh
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri S. Nagarajan, President
Society for Information Science
c/o PID, New Delhi-110012.

Shri P.C. Bose, Secretary,
Society for Information Science
c/o ARIC, New Delhi-110012.

Shri R.N. Sharma
Society for Information Science
c/o PID, New Delhi-110012.

**Editor: Ram D. Taneja**

**Editorial Office:** S-371, Greater Kailash-I,
New Delhi-110048.

© 1991 DSIR, New Delhi.

Published by the Society for Information Science on behalf of National Information System for Science & Technology (NISSAT),
DSIR, Government of India,
Technology Bhawan,
New Delhi-110016.

**NISSAT Newsletter**, published quarterly, is the official organ of NISSAT, and is aimed at disseminating information concerning programmes, activities and achievements of NISSAT as also of the various centres functioning under it. Additionally, it attempts to project major developments in the field of information science at national and international levels.

Communications concerning the Newsletter may be addressed to Dr. A. Lahiri, Jt. Adviser (NISSAT), Department of Scientific & Industrial Research, Government of India, Technology Bhawan, New Mehrauli Road, New Delhi-110016. Material published in the Newsletter can be reproduced with due acknowledgement to the source.

**Cover Design: N.N. Sethi, Associated Artists,
New Delhi-110001.**

# Retrospect and Prospect

Have we reached a plateau in the information revolution? One who has closely monitored the exhibits and followed up the deliberations in major conferences on information such as the International On-line Information Meetings in the U.K., National On-line or ASIS annual conferences in the USA would tend to agree that further progress has been just marginal.

Let us take stock of the trend of information technology in the last two decades. Computers used to be kept at one corner of a building safe behind expensive glass partitions. The blue vinyl flooring and teak panels or similar laminations, strikingly different from the rest of the building, added to the aura and mystique about these machines. Those who knew something about them were regarded as VVIPs in the organisation. Fortunately, the PC revolution helped break all these barriers and brought computers out in the open. Few will treat it as a miracle machine any more, when a primary school student knows how to play with it or a clerk could use word processing in place of a mechanical typewriter with equal ease.

Similar is the tale of photocopying. With the advance of technology one can now get copies on paper we normally use in place of those smeared with stinking chemicals. In due course, the machines came out of their airconditioned environs to office corridors and shops in street corners; unfortunately, however, the once much sought after reprographic officer had to find some other job to fend for himself.

In India, the micrographic technology did not make a mark. It was not popular even among its distinct target users. Now the time is against it. The new comer optical system with very high capacity and ease of handling, has demonstrated its capabilities.

The progress in telecommunication technology worldwide, cannot be comprehended by the Indian users. Inspite of all that is talked about, satellite or no satellite, microwave or optical fibres, from users point of view, the situation remains as it was in the distant past. The gap between us and the developed world in this field is too large. To cut the long story short, there it works, here it doesn't (A good exhibit in an Indian situation would be to set up a stall with nothing but a telephone working).

Getting back to where we started, further revolutionary development in information technology does not seem to be in sight. Computers have become smaller in size, larger in storage and of course faster in manipulation capacity. From location in large rooms, it resided for a while on desktop and is now in cosy comfort of the lap (some are more fortunate to fit into a lady's bag). Very soon, computers may displace calculators in their prime location and application. The throughput has been progressing inversely to the size. Its driving spirit, that is the software, can now befriend even the most non-sociable animal.

Similarly copiers can now produce clearer copies in large numbers. The machines have become compact and those who can afford, can add a spot of colour to their copy.

In information exhibits today, one does not see very many new items. For example, in the London On-line Conference held only two months ago, CD-ROM stack perhaps was the only new technological exhibit. Other developments could be considered more or less add-ons, decorative frills (e.g. graphic extension to retrieval software of business databases) or new ways of doing old things (e.g. library automation software). Computers, reprographic or micrographic technologies no longer find place in international exhibitions. The telecom industry also, may not have much new stuff to show, but their thin exhibition presence in the London On-line Exhibition was conspicuous.

One significant point to note was the relatively thin participation of the technologist compared to those involved in alerting. Even, in India one would not fail to note this point in large meetings like the CSI annual conference. Perhaps that's how it should be; technologists have, by and large, done their job, others should now play their role and see that the technological products and services are better utilized. We shall talk about it in the next issue. .. — A. Lahiri

NISSAT

NEWSLETTER

Vol. 10 No. 1 Jan.-Mar. 1991

## CONTENTS

Retrospect and Prospect 1

SIRNET Electronic Mail System 3

Magnetic and Optical Storage of Information 7

Management of Data — COMAD 90 10

Marketing of Information Products — IPE Study 11

Management Information System for Agricultural Research — International Workshop 12

Tenth SIS Convention, Trivandrum 13

NISSAT-INSDOC Courses on Computer Applications to Library & Information Activities 1991-92 19

News and Events 21

# SIRNET Electronic Mail System

SIRNET, an acronym for the Scientific and Industrial Research Network is a computer communication network for the CSIR laboratories. At present SIRNET has only one mail node and a number of user nodes. Every mail node in a network is named and the present SIRNET mail node is known as csird signifying the CSIR mail node in Delhi physically located at INSDOC, New Delhi. It is connected to a larger network ERNET (Education and Research Network) set up by the DOE with financial assistance from UNDP. ERNET in turn is connected to the international network UUNET (Unix User Network) through which other international networks like BITNET, CSNET and JANET are accessible. In addition to acting as intra-city node for Delhi based CSIR laboratories and inter-city node for other CSIR laboratories, csird also acts as a gateway to ERNET and through ERNET to international networks. Any subscriber on this node is able to reach out to all the CSIR laboratories/institutions on SIRNET and to anyone who has an electronic mail address on an international data communication networks like, UUNET, BITNET, CSNET, etc. These networks together span all major countries — USA, Canada, UK, and other European countries, Australia and Japan.

The present electronic mail setup (Fig. 1) shows only the major mail nodes. A large number of user nodes which are connected to these mail nodes are not shown. The mail node csird is directly connected to Department of Electronic mail server vikram which acts as the clearing node in Delhi for ERNET. IIT Delhi node, netearth and JNU node, jnuniv are also connected to vikram. Consequently, anyone connected to csird can reach ERNET users in IIT, Delhi (about 15) and JNU (about 12) via vikram. All connections to vikram from csird, netearth and jnuniv are established using dial up telephone lines of Delhi Mahanagar Telephone Nigam Limited. These connections are established a few times a day when all the mail in each node is deposited to vikram and all the incoming mail is collected.

In addition to being a clearing node for ERNET at Delhi, vikram also acts as a forwarding/receiving node for mail to/from the node shakti at the National Centre for Software Technology (NCST), Bombay. Shakti acts as a national clearing node for all ERNET city nodes. The present ERNET city nodes are shiva of IIT, Madras, turing of IISc, Bangalore and vikram of DOE, Delhi. These city nodes dial up to shakti two or three times a day and collect/deposit mail. The national telephone network is used for this purpose. Public switched Telephone Network, PSTN is the internationally standardised term acronym for the national telephone network in every country. The NCST mail server shakti is connected to the UUNET in USA and in Europe and to many other networks (BITNET, CSNET etc.) via UUNET. Thus from csird one is able to send mail to any network anywhere on the globe.

### User Node Setup

The equipment required for a user node is as follows:

a) A PC/PC-XT/PC-AT with MSDOS operating system.

b) A Stand-alone modem connected to the RS232C port of PC or an internal modem plugged into one of the available PC bus slots. A modem unit carries digital computer signals over analog telephone system with automatic dialling and redialing facility. The modem should be able to work at 300 or 1200 bps speed.

c) A dialup or leased PSTN link.

d) A communication software package that runs under MSDOS e.g. PROCOMM, or CROSSTALK of Microsoft Inc, USA.

INSDOC recommends

a) A PC-XT or PC-AT,

B) A stand-alone modem with error correction facility at 1200 bps,

c) A dial-up line start with, and

d) PROCOMM software package.

### Mail Node Setup

In CSIR setup of laboratories and institutions, many a cities have cluster of these, thus expecting a number of electronic mail users at one site. The setting up of only USER NODES in these cities will not serve the purpose. For easy user interface and locally administered security, UUCP (Unix-to-Unix Copy) programmes will provide an interim solution for a true WAN (Wide

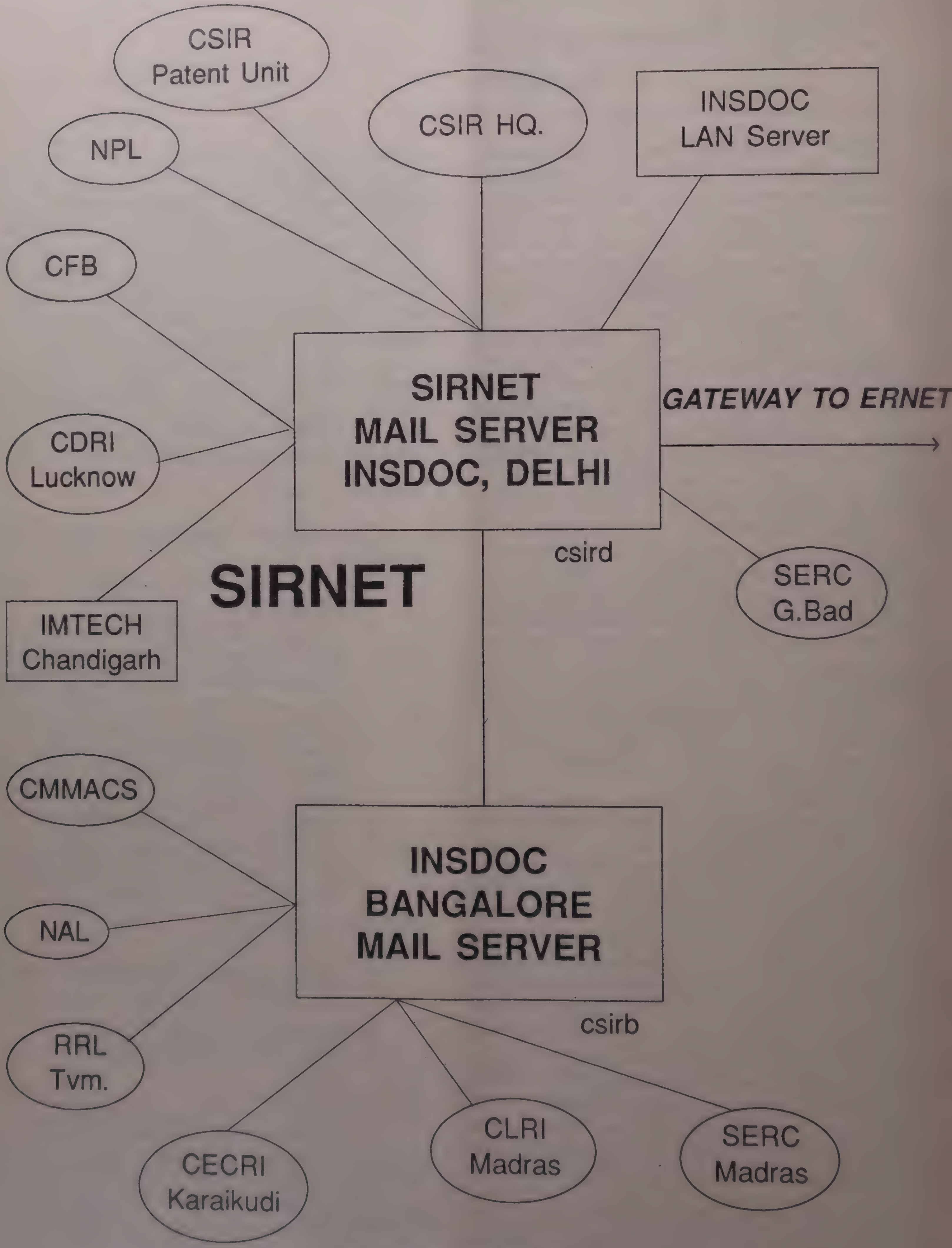

CSIR
Patent Unit
CSIR HQ.
INSDOC
LAN Server
NPL
CFB
SIRNET
MAIL SERVER
INSDOC, DELHI
GATEWAY TO ERNET
CDRI
Lucknow
csird
SIRNET
SERC
G.Bad
IMTECH
Chandigarh
CMMACS
INSDOC
BANGALORE
MAIL SERVER
NAL
csirb
RRL
Tvm.
CLRI
Madras
SERC
Madras
CECRI
Karaikudi

Fig. 1 SIRNET E-Mail Setup

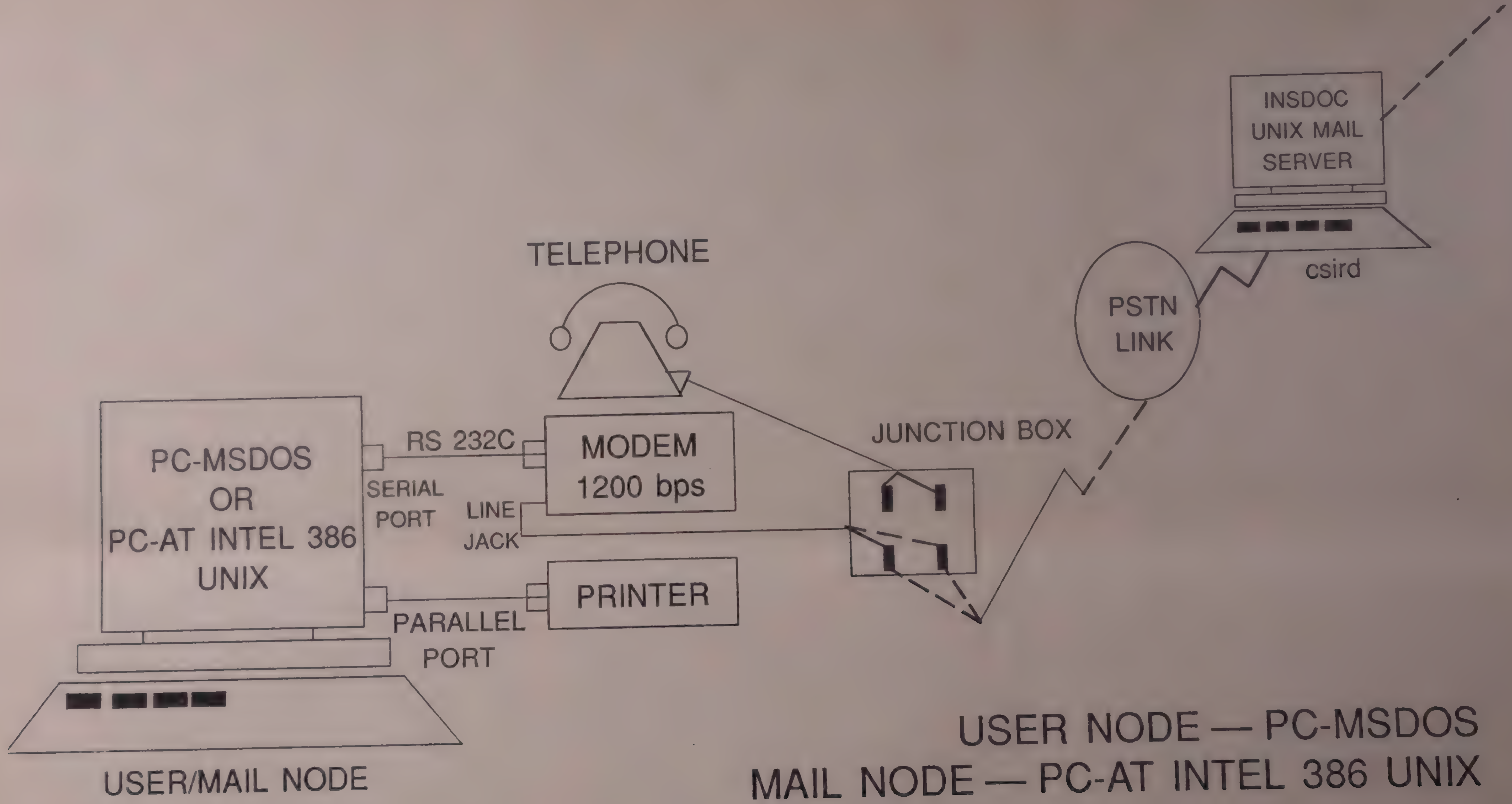

TELEPHONE
INSDOC
UNIX MAIL
SERVER
csird
PSTN
LINK
PC-MSDOS
OR
PC-AT INTEL 386
UNIX
RS 232C
SERIAL
PORT
MODEM
1200 bps
LINE
JACK
JUNCTION BOX
PRINTER
PARALLEL
PORT
USER/MAIL NODE
USER NODE — PC-MSDOS
MAIL NODE — PC-AT INTEL 386 UNIX

Fig. 2 User Mail Node Setup

Area Network). UUCP is a set of UNIX utilities provided along with the standard UNIX package for basic data communication like e.mail, remote login and remote file transfer among various systems and users.

The equipment required for a Mail Node is as follows:

a) A PC-AT-80386 UNIX machine with 1 MB RAM, 40 MB hard disk, 1.2 KB floppy disk, RS232C ports and parallel port.
b) A standalone modem with error correcting facility at 1200 bps.
c) A dial-up line with STD/local dialing facility, and
d) provision of Basic Networking Software (UUCP) with standard UNIX package to communicate with other UNIX system.

User/mail node set up is shown in Fig. 2.

**How INSDOC Can Help?**

INSDOC has developed expertise in establishing E-mail facilities. With the help of Networking Team, INSDOC offers to set-up USER NODES or MAIL NODES for Electronic Mail in CSIR laboratories and institutions on SIRNET.

Many CSIR organisations may already have some of the required equipment. INSDOC is able to extend its support at different levels depending upon the requirement:

Procure and install all the hardware and software, set up the node and train personnel.

or

Procure and install only the modem, set up the node and train personnel.

or

Only set up the node and train personnel

**Electronic Mail**

A word about EMAIL. Electronic mail is a popular and rapidly expanding form of communication that enables scientists and engineers to exchange electronically created messages over computer communication networks. Electronic mail systems are finding increasing use across Wide-Area Networks (WANs) that cover national and international geographical areas. They are also popular in Local Area Networks (LANs) that interconnect computer systems within a single building or a group of adjacent buildings.

EMAIL Systems permit a user scientist to send messages to a specific individual or to a group of individuals or to everyone connected to the network. Messages are entered as text files via a computer terminal or a personal computer that is connected to the network. The text file may be created and edited using a word processor or any other file editor. Alternatively, messages may be keyed-in directly to a remote mail node from a user node which may be a terminal or a PC. A mail node is a computer that is a part of the EMAIL network, which performs all mail related functions including mailbox management. A user node, which is a computer generally located at the user's desk, does not participate in the network activities. The user of a user node is registered with a mail node on the network, where a mailbox is assigned to him/her. The user logs in to the mail node and deposits or collects his/her mail. Mailboxes are usually maintained in the disk storage of the mail node.

If a recipient is not connected to the network at the time a message is received at his/her end, the message is held in his/her mailbox, until the recipient is ready to open the mailbox and read the message. A series of messages may be queued up in the mailbox.

On receiving a massage, the recipient may do one of the following:

Read the message,
Print out a copy of the message,
Save the message in a file,
Forward the message to someone else,
Add one's own comments, edit the message if required, and then forward it to someone else,
Destroy the message.

**Institutions on EMAIL Network**

1. Council of Scientific & Industrial Research, New Delhi
2. Department of Electronics, New Delhi
3. Indira Gandhi Institute for Development & Research, Bombay
4. Indian Institute of Science, Bangalore
5. Indian Institute of Technology, Bombay
6. Indian Institute of Technology, Madras
7. Indian Institute of Technology, New Delhi
8. Indian National Scientific Documentation Centre, New Delhi
9. Jawaharlal Nehru University, New Delhi
10. National Centre for Software Technology, Bombay
11. Tata Institute of Fundamental Research, Bombay

# Magnetic and Optical Storage of Information*

M.R. Balakrishnan
Bhabha Atomic Research Centre, Bombay

**The apparent advantages of optical storage media over magnetic media have made the computer based storage system even more attractive and popular in recent years. The author dwells on some fundamental aspects of optical recording, production of CD-ROM and the equipment required to 'read' it. Relevant standards for physical layouting of data on the discs, logical file and directory structures, etc culminating in ISO: 9660-1987 are referred to along with some cost considerations.**

Optical recording has its beginning in music and film recording. Rapid developments in the area of digital signal processing during the seventies made it possible to convert analog signals into digital data, and to covert the digital data back into the original continuous analog signal. More or less at the same time laser technology and sophisticated optics also made significant strides. Laser beam plays the important role or providing an electromagnetic radiation with a single frequency having no bandwidth at all. A spread in wavelength results in loss in fidelity. Sophisticated optics is also important in preserving the quality of data transmitted through the highly monochromatic laser beam, which has to traverse through a number of optical components. Developments in laser technology digital signal processing and in optics made optical discs of 30 cm diameter containing video recording of one hour duration possible. These optical discs, introduced in 1978 were also known as laser discs, since a laser beam is needed to record and playback the audio video programmes. By 1983 smaller discs of 12 cm diameter containing about 75 minutes of high quality music recorded on the disc appeared on the market. It did not take long for the development of optical discs for information recording. All the commercially available optical discs so far are such that writing on these discs can be done only once. Hence, these optical discs belong to the category of devices commonly known as "Read Only Memory"; or ROMs. The 12 cm diameter optical discs came to be popularly known as "Compact Disc", and since these are not yet developed beyond the level of Read Only memories, they are known as CD-ROMs. Each 12 cm CD-ROM, with information recorded on one side alone has a capacity of about 550 MB. One CD-ROM can hold the entire set of Encyclopaedia Britannica, or the multi-volume Oxford English Dictionary.

Leaving aside minor variations in the technologies, most optical discs used for data recording have three layers of materials on the disc. The lowest layer is a hard material and is meant to retain the shape and physical integrity of the disc. On top of this there is a reflective film, and this is the layer on which data are recorded. The third layer is a protective coating to prevent the reflective layer from any physical damage. Data recording is achieved by making very tiny depressions on the reflective layer. These depressions may represent "O"s. Once the recording is over, the surface of the reflective layer of a CD-ROM will consist of a number of depressions, and areas with no depressions — commonly known as "pits" and "lands". Due to reasons associated with modulating and error correction techniques, "O"s and "I"s are in practice not represented by "pits" and "lands". Instead a transition from a "pit" to a "land" or from a "land" to a "pit" denotes a "1" and the length between transitions, whether it is a "pit" or a "land", represents the number of "O"s. The "pits" are created by highly focussed monochromatic laser beams powerful enough to cause depression on the reflective layer. Reading the recorded information is done by using another less powerful but highly focussed monochromatic laser beam which will get reflected from the "pits" and "lands". The laser beam that is used for reading does not create any "pits" on the CD-ROM surface. It merely detects them. Fig. 1 illustrates the recording on an optical disc.

In the case of most optical discs two glass substrates are placed back to back with a thin layer of tellurium alloy in between. The two glass substrates with a thin layer of tellurium alloy inside are firmly held by an outer and inner metal ring. Before the recording is done a very shallow continuous spiral groove of uniform depth is made into the tellurium alloy coating by using highly focussed monochromatic laser beams. Instead of having spiral grooves, some optical discs have the grooves in concentric circles. Developments in sophisticated optics and servomechanism have made it possible to have these grooves separated from each other by a gap as narrow as 1.6 microns. In order to record information, "pits" are melted into these grooves by a laser beam of fluctuating intensity. The depth of each "pit" is about 0.1 micron and its width is only 0.6 micron. With a pitch of 1.6 microns between the tracks and with a width of 0.6 micron for the pits, the density of recording that can be achieved is about a million bits per square mm. While reading the optical disc, the reflected light distinguishes between the "pits" and the "lands", and gets the information recorded on the disc into the original "O"s and "1"s. Once the recorded information is read and converted into "O"s and "1"s, there is hardly any difference between information recorded and read from a magnetic media and from an optical disc.

---

*Based on paper presented at the Tenth Annual Convention and Conference of the Society for Information Science, Trivandrum.

**Production of CD-ROM**

The process of production of a CD-ROM is similar to the method used in the production of musical records. The first step is to store the data on a magnetic tape either by "keying-in", or by optical scanning of texts and using OCR (optical character recognition) equipment, or by optical scanning and digitising the image. In the first two methods information is stored character by character, while in scanning and digitising the image, information is stored as facsimile in the form of images. Most of the CD-ROMs containing databases or encyclopaedia use information stride as characters. The structured data with special identifying codes are recorded on a magnetic tape. These special codes are later used when data must be selected and read by the CD-ROM drive. The magnetic tape, with the formatted database stored on it, is sent to a "Mastering plant". In the Mastering plant, the database is written on a glass "master" by a laser beam. The laser beam burns microscopic pits representing data into the surface of the Master. The master becomes the original from which CD-ROMs are mass produced. Using master, through mirror image inversion, a "Stamper" is created which is used in replication of the injection moulded disc. Preparing the "Master" and the "Stamper" are the most complex and expensive operations in the production of CD-ROM. Since no correction can be introduced in the CD-ROM, thorough checking of the data before the master is prepared is very essential. Preparing a master, reportedly, costs about $ 2,000 to $ 50,000. The cost of the final CD-ROM largely depends on how many copies are made from each Master. If the total number of copies made from one Master is about 1000, the cost of a CD-ROM should be around $ 5 to $ 50, depending on the cost of "Mastering".

**CD-ROM Equipment**

The universally followed procedure to read information from CD-ROM is to use a CD-ROM disc drive, which is more commonly known as a CD-ROM player, connected to a personal computer of the standard configuration that is being widely used now, with atleast 640 MB memory, one floppy drive, one winchester disc along with a printer. There should be an interface card to connect the CD-ROM player to the computer. The CD-ROM player with an IBM PC/AT cost a little over Rs. 120,000.

A prototype CD-ROM drive was demonstrated by Philips in November 1984. The standard for CD-ROM was agreed upon by Sony and Philips and came to be known as the "Yellow Book", The specified size of 12 cm is easily accommodated in the $5\frac{1}{4}$" size provided for floppy discs in personal computers.

The yellow Book specifies the physical layout of data on the disc, ECC and encoding. It does not lay down a standard for a logical file structure or directory format. In September 1985, a group of 13 companies met at the High Seirra Casino Lake Tahoe in Nevada. The High Seirra Group agreed upon logical file and directory structures for CD-ROM. After some minor modifications and enhancements, the HSG proposal was adopted by ISO in late 1987. For all practical purposes, the final standard ISO-9660 is identical to the original High Seirra Group proposal.

The organisation of files on a CD-ROM is similar to the tree structure used by DOS and UNIX for file directories. However, unlike in the case of magnetic discs, the High Seirra proposal provided for a table giving the physical location of each file on the CD-ROM. The path table is read and stored in the RAM before the use of a CD-

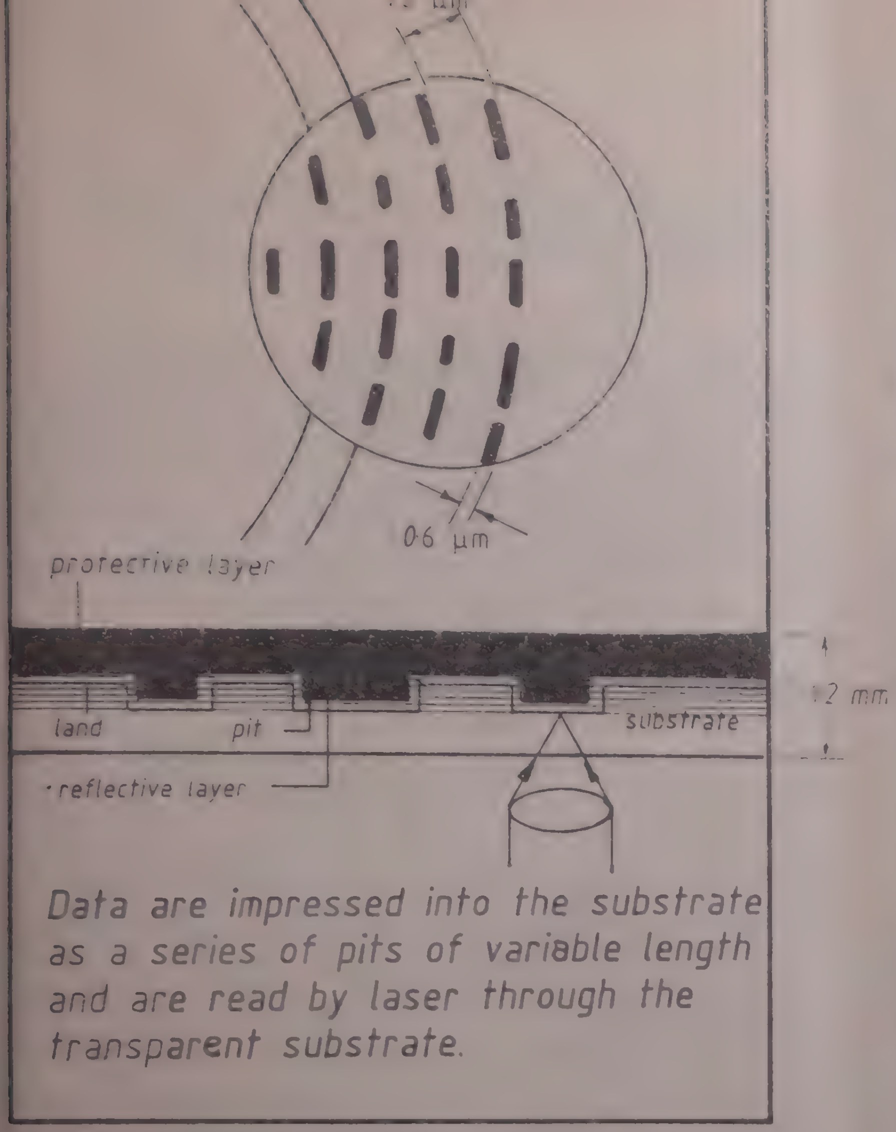

0·6 µm
protective layer
land
pit
substrate
1·2 mm
reflective layer
Data are impressed into the substrate as a series of pits of variable length and are read by laser through the transparent substrate.

*Fig 2 ILLUSTRATION OF OPTICAL RECORDING*

**Fig. 1 Illustration of Optical Recording**

ROM is initiated. The path table in a CD-ROM obviates the need to follow the path tree to read any file. The operating system DOS, as it exists now, is not capable for handling CD-ROM. Hence, an extension of DOS, called MSCDEX, is loaded to the operating system as a part of installing the CD-ROM drive to a PC/XT or PC/AT. The installation of MSCDEX and the CD-ROM drive is quite simple, and can be done without any external assistance.

## Conclusions

The ease with which information stored in a computer peripheral medium can be selectively recalled and the enormous amount of data that can be stored on an optical disc, whether it is the 12 cm CD-ROM or the 12" optical disc, make a computer based image and information storage system very attractive. The computer system that is needed to retrieve information from optical discs is rapidly becoming less and less expensive but the cost of telecommunication does not seem to fall at the same rate as the cost of computer systems. Besides, the availablity and reliability of telecommunication systems in many parts of the world are not quite as satisfactory as one would wish. Hence, stand-alone optical disc based systems are bound to be more attractive than large centralised computers with databases that can be accesed from many parts of the world. Such a centralised system was indeed more attractive when the cost of storing the database and the cost of computer were rather high. With increased use of optical discs and pre-recorded CD-ROMs, the cost of these discs and of CD-ROMs containing databases or encyclopaedeae or handbooks is bound to go down further and consequently their use also will rapidly go up.

# Management of Data
# COMAD 90

The Indian National Scientific Documentation Centre organised an International Conference on Management of Data (COMAD 90) during December 12-14, 1990 at New Delhi. The conference was preceded by two-day tutorials (December 10-11) to upgrade prior knowledge and provide valuable time and money-saving insights into data management techniques common to many information systems. Covering new data models, entity relationships and object-oriented databases, the tutorials were greatly appreciated by the participants.

## Inauguration

**Shri T.N Seshan**, presently Chief Election Commissioner of India, then Member, Planning Commission, inaugurated the conference. He emphasised the importance of data management and quoted a number of examples where proper data had not been available for decision making or for planning purposes at the national level. He stressed the need for evolving data management techniques that would make the access of meaningful data easier to the user. He sggested that in the next year, COMAD should concentrate on making data management techniques more user-friendly.

**Prof. T. Viswanathan,** Director, INSDOC and Conference Chairman in his welcome address brought out the importance of data management in the context of present information explosion. He traced the genesis of this conference to the interest shown by a few professionals in India foreseeing the importance of data management in coming years. He pointed out that the conference was focusing on data management techniques that are likely to become available a few years from now. Reviewing the performance of various database management systems (DBMS) being employed at present, he asserted that in the wake of very large data to be handled, need is already being felt to look for the new database organisation techniques such as object-oriented databases, etc.

**Dr. N. Seshagiri,** Director-General, National Informatics Centre (NIC), Delivered the keynote address. He emphasised the need for decentralized management and to evolve distributed or federated systems which would cooperate with each other over a network. In this regard he underlined the role of computer communication networks. Talking about General Information Systems (GIS) being developed by NIC, he mentioned that there are two lines of research being pursued in India. One in which a tool box approach is taken for data management and the other in which a hybrid approach combining scheme structure with tool context is used. The former appraoch is being pursued by the Department of Space, Bangalore, National Remote Sensing Agency, Hyderabad and Space Application Centre, Ahmedabad. The latter approach is pursued by NIC.

## Panel Discussion

The conference was attended by 75 delegates including foreign delegates from USA, Sweden, Japan, Switzerland, France and Italy. A total of 62 papers were received. These were reviewed by a programme Committee of 28 persons (21 from abroad). Finally, 19 papers were accepted for presentation covering various aspects of data management including query systems, fussy systems, specialized databases, etc. The accepted papers — 7 from India and 12 from abroad were printed in the proceedings of the conference.

An interesting feature of the conference was the panel discusison on the last day (December 14) on the theme "Data Management: The Next Decade". The panelists included Shri N Vittal, Secretary, Department of Electronics (Chairman), Dr. P.P. Gupta, Chairman & Managing Director, CMC Ltd., Dr. S.S. Murthy, Director, Defence Scientific Information & Documentation Centre (DESIDOC), Prof. B.N. Jain IIT, Delhi, Prof. C. Rolland, University of Paris, France and Prof. T. Viswanathan, Director, INSDOC. Other participants included eminent persons from government, industry and academic circles. Many problem areas in data management and solutions feasible were discussed. The panelists suggested that the ultimate aim should be to develop user-friendly interfaces for establishing the acceptability of data management techniques.

# Marketing of Information Products — IPE Study

The Institute of Public Enterprise, Hyderabad recently conducted a study on marketing of information products and services by libraries and information centres. The study was commissioned by NISSAT in the Department of Scientific & Industrial Research, New Delhi.

The study Report, published recently, notes that most librarians and information professionals are not familiar with the contemporary approach to marketing. They do not believe that they have to market their resources and services. However, atleast in a few centres, there is an effort to market the products and services, but the main thrust appears to be on selling them. The performance of these centres assessed on the basis of the total volume of sales. Except in very few cases even the sales data are not available. Further, the information centres which form part of larger organisations do not have the much needed marketing orientation.

The annual budgets of the information facilities put together form only 1.0 to 1.5 per cent of our R&D budget. However, the total investment that has gone into these facilities over the last few decades is very substantial. The importance of this sector becomes very clear when we look at the need for the massive investment required in the coming years on account of a variety of reasons including the enormous growth of S&T information, increasing cost of journals as well as books, new information technologies and above all increasing operational costs. Hence the report reccommends series of actions to bring about a radical change in the philosophy and approach to the provision for information products and services.

The main recommendation is that the NISSAT should take a long term view of the management systems and practices and take appropriate steps to bring about the desired changes. In specific terms, the study recommends that:

1) NISSAT should sponsor and support short duration management courses for the benefit of librarians and heads of information centres. These courses should focus on marketing management.

2) Nissat may also take steps to develop suitable guidelines for marketing of information facilities, products and services which will be suitable to the Indian conditions.

3) Another important step to be taken is that NISSAT should develop a set of guidelines for evaluating the performance of libraries and information centres.

4) The heads of libraries and information centres may be asked to develop suitable marketing plans on an annual basis. Implementation of the plans may be supported by suitable funding. To start with this programme may be considered for at least a few selected libraries and information centres.

5) Further, any future investment in libraries and information centres should have a marketing component. While approving funds for information materials and technologies, suitable allocations should also be made for marketing activities.

6) Benefits of marketing approach and studies should be given wide publicity. To start with, *NISSAT Newsletter* could serve as a medium for communication. Later, successful case studies on marketing may be compiled and published for reference.

7) NISSAT may encourage and support an annual conference of heads of libraries and information centres with a view to reviewing their performance.

8) Perhaps it is also appropriate if the library schools and the open universities are encouraged to launch a post graduate course on management of libraries and information centres.

The report points to the fact that NISSAT has been a pace setter in the past and a source of inspiration for the information professionals. In this context it will be appropriate if NISSAT accepts the above recommendations and initiate appropriate action to improve the image and profitability of the information centres.

# Management Information System for Agricultural Research — International Workshop

In order to provide an opportunity for the research managers in the South Asian countries to gain insight into the development and use of an organised Management Information System (MIS) for agricultural research, the National Academy of Agricultural Research Management (NAARM) organised, in collaboration with the International Service for National Agricultural Research (ISNAR), Netherlands, a two week International Workshop on MIS for Agricultural Research at NAARM, Hyderabad from 17 to 29 September 1990. The workshop was supported by the Asian Development Bank (ADB).

## Objectives

The workshop's main objective was to develop and evaluate new approaches to organising and using good information for agricultural research management. The major emphasis was on specific MIS development problems and practical solutions.

The event was attended by 41 research managers from six South Asian countries, namely, Bangladesh, Peoples' Republic of China, Nepal, India, Pakistan and Sri Lanka. This includes participants from NAARM, ISNAR and ADB. The participants were essentially managers who either use information for decision-making or produce and organise information for such decision-makers.

## Proceedings

The Workshop was inaugurated on 17 Sept. 1990 at NAARM in Hyderabad. While speaking on the occasion, Dr. Byron Mook from ISNAR, Dr. K.V. Raman from NAARM and Dr. Muhammad Mannan from ADB emphasized the need for an organized information system to manage the resources in the developing country research systems more efficiently and effectively. The guidelines prepared by ISNAR on Project Budgeting System (PBS) and MIS formed the basis for discussion in the Workshop. The participants had a lot of 'hands-on' experience by working with computers using the software 'REFLEX'.

In the plenary session, the participants were introduced to concepts like project budgeting system, database management and human resources management, after which they actually practised various aspects of these concepts in the computer laboratory. After familiarising with basic concepts and the computer use, the participants worked on a project for developing PBS MIS. They were made into groups of three and asked to develop an MIS using the Ghosa project case study. The MIS developed by the individual groups were presented and evaluated. The hands-on experience with the computers gave the participants lot of confidence to develop and use MIS for agricultural research.

The guidelines prepared by ISNAR on PBS/MIS were discussed by different Panels comprising scientists from different countries. Several useful comments and suggestions were made. Participants from individual countries met in groups and finalised the status paper prepared by ISNAR, high lighting the MIS currently under operation in their respective countries. Towards the end of the Workshop, specific action plans for introducing the MIS in their respective countries were prepared by the participants. The individual action plans were presented and finalised in the Workshop.

# Tenth SIS Convention, Trivandrum

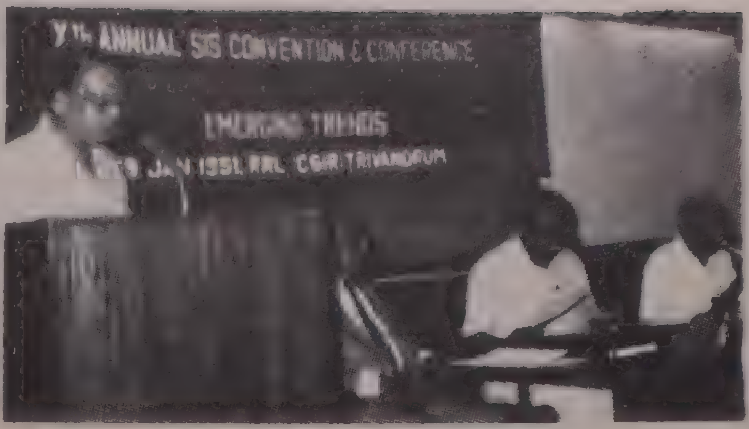
The Tenth Annual Convention of the Society for Information Science got under way at the Regional Research Laboratory (RRL), CSIR, Trivandrum on 17 January 1991 amidst reports of the outbreak of War in the Persian Gulf — the first major war of the computer age. As expected the first casualty, like in any war, was information — reliable, credible and factual information while communications dwindled to a minor concern.

Not for the Convention, however, where it was indeed the major concern, the theme itself being 'Emerging Trends of S&T Information Systems and Services'. Extensive and intensive discussions by over a hundred library and information experts and professionals went on for three days through 19 January to provide a glimpse of what has been happening in the country and of the developments in the future.

## Inauguration

The convention was inaugurated by Shri K. Chandrasekharan, Minister of Education and Law, Government of Kerala. The Minister welcomed the decision of SIS to hold the convention in Kerala. The conference, he felt, would create an awareness about the current status of information systems, their potential and promise, identify gaps in so far as states like Kerala were concerned and integrate the efforts of different institutions and agencies.

The Minister emphasized the need for making information available to researchers speedily and in a cost-effective manner. He called upon all agencies concerned with generation, communication and use of S&T information to put in their best efforts to computerize the systems as speedily as possible so that India does not lag behind other countries in this respect. In so far as Kerala was concerned, he assured full support of the State Government in these endeavours.


Xth ANNUAL SIS CONVENTION & CONFERENCE
EMERGING TRENDS
JAN 1991 RRL CSIR TRIVANDRUM

**SIS Secretary P.C. Bose welcomes Chief Guest and the delegates**

Earlier, welcoming the delegates and guests at the inaugural function, the Director RRL, Dr A.D. Damodaran said that researchers were primarily interested in modernising libraries as a quick and comprehensive source of information in support of the research programmes. This meant ultimately the facility on a terminal to retrieve the relevant literature from all databases available nationally and also internationally. Obviously the use of computer based data system and networking formed the key to modernisation of the library from this point of view.

In this connection. Dr Damodaran recalled with great interest what he saw in 1976 in the Information Division of the celebrated Oakridge Laboratory, USA which perhaps was one of the pioneers in creating research data bases of published literature based on a key-word concept. A serious effort had been initiated in RRL during the past 3-4 years to introduce such a concept in the library. In selected cases services of private agencies had been used for on-line search. Recently RRL library had been connected to the SIRNET Electronic Mail System. The idea was to develop this terminal as an entry point for national and international published literature as early as possible.

Dr Damodaran added that CSIR had been playing a very crucial and significant role in promoting basic research through its extramural research programme. To an extent perhaps INSDOC activities also can be treated as an allied activity. It is in this connection that RRL proposed to make use of the SIRNET system to make this data retrieval facility available to all serious research students and scientists in Kerala State for which he requested the State Minister of Education to join CSIR-RRL as a partner on a 50-50 basis. In this connection, Dr Damodaran noted

N & CONFERENCE
RUM

1. Shri I.R. Kumar (NRDC) is awarded SIS Fellowship by Shri K. Chandrasekharan as Shri S. Nagarajan applauds

2. Raizada Memorial Award for Young Scientists (1989) is received by Shri Subhash Deshmukh (National Council of Cement and Building Materials)

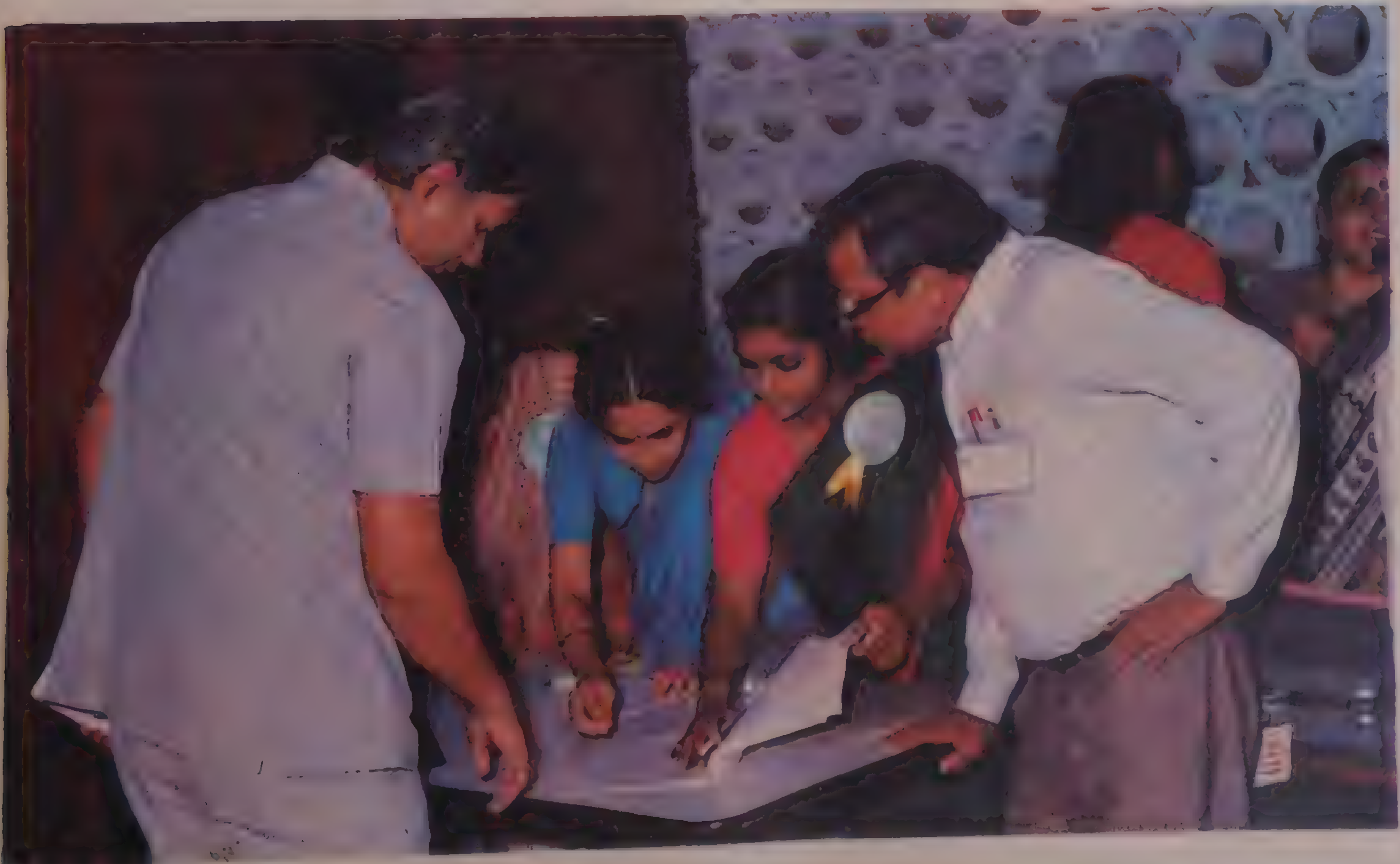
3. A section of the audience

4. Raizada Memorial Award (1990) to Shri Som Datt (ICAR)

5. Dr A.D. Damodaran, Director RRL, Trivandrum addressing the inaugural function

6. Lighting the inaugural lamp is Shri K. Chandrasekharan, Minister of Education and Law, Govt. of Kerala as Dr Damodara applauds

X th ANNUAL
& CONFERENCE
S & T INFO
17
TRIVANDRUM



7. At the Registration Desk, Dr K. Subramanian (NIC) and Shri H.C. Jain (PID)

that RRL library and researches were being used by a number of students belonging to the various national institutions in the State. He expressed the hope that with the help and encouragement of the State Government, this facility would be further strengthened and it would be possible in the near future to integrate the system with on-line search facilities.

Shri S. Nagarajan, President of SIS in his introductory remarks gave a resumé of the activities and programmes of the Society in the last decade and drew attention to the tasks that lay ahead. He lamented that information scene in India had yet to make an impact on the planning and development process. Of the total budget for scientific research in CSIR, only 3-4 per cent was allotted to information facility. The annual expenditure at current level for providing information services at different S&T information centres was Rs 20-30 crores or about 1-1.5 per cent of the national R & D budget. In contrast, in advanced countries nearly 25 per cent of the GNP is spent on information activities.

## Award of Fellowships

Two Fellowship Awards were given for 1990 by the Chief Guest, Shri. K. Chandrasekharan. In keeping with established practice, the awards are given by SIS annually for outstanding work in information science and technology. Each award carries a scroll and a silver medallion and confers on the awardee Life Membership of the Society. So far 25 Fellows have been thus honoured.

The 1990 Fellows are:

1) Shri P.N. Sharma, Head, Library and Information Services, Thapar Corporate R & D Centre, Patiala.

2) Shri I.R. Kumar, Dy. Manager (Informatics), NRDC, New Delhi.

The Raizada Memorial awards to young scientists for 1989 and 1990 for contributions to the cause of dissemination of S&T information were also given away on the occasion for the first time. The winners are:

1) Shri Subhash Deshmukh, National Council for Cement and Building Materials, New Delhi.

2) Shri Som Datt, ICAR, Krishi Anusandhan Bhawan, New Delhi.

Proposing a vote of thanks, Shri P.C. Bose, Secretary SIS, thanked the Director RRL, Dr A.D. Damodaran for hosting the SIS convention, the first in Kerala, and extending all possible facilities for smooth conduct of business. He thanked the Chief Guest for kindly gracing the occasion to inaugurate the conference and for his encouraging response to the plea for strengthening the information facilities in the state. To the local Reception Committee which had Shri K.P. Sadasivam as Convener, the Society owed grateful thanks for excellent organization and management of the Conference through its various subcommittees for transport, accommodation, hospitality, etc. He expressed the Society's gratitude for generous financial support extended by CSIR for convening the convention and concluded by thanking the delegates who had responded so well to the Society's call, and the Chairmen and the Keynote speaker for accepting the invitations.

## Preliminary Session

In the Preliminary session presided over by Dr D.S. Rane (Rapporteur Ms K. Lalithabai), Dr

**SIS Fellowship Recipient Shri P.N. Sharma**

M.R. Balakrishnan delivered the keynote address which dealt with Optical Storage of Information, the basic principles involved and techniques of optical recording of data. The optical discs had a much higher strorage capacity compared to magnetic discs. Dr Balakrishnan, explained the CD-ROM technology, its production, CD-ROM equipment and its suitability for use in computer systems in countries like India.

Among the other notable general presentations were those on NICNET by Dr K. Subramanian, of NIC, on NISSAT activities by Mrs S. Ravindran (DSIR), on T/FACLINE by Ms Radhika Ramnath, on various systems developed and marketed by HCL by Shri Anil Kumar of HCL, and on systems developed by WIPRO by Shri Veeraraghavan.

## Technical Sessions

Twenty-five papers were presented in five technical sessions devoted to various aspects of information generation, storage, processing and retrieval.

1) **Session 1**: Parameters involved in the building up of specialized information systems (Chairman: Dr I.N. Sengupta; Rapporteur: Shri S.N. Mehta)

2) **Session 2**: Existing information systems in India — A case study (Chairman: Dr M.R. Balakrishnan; Rapporteur: Shri D. Kamala Vijayan)

3) **Session 3**: Standardized methods in relation to hardware and software (Chairman: Prof. T. Viswanathan; Rapporteur: Shri R. Kundra).

4) **Session 4**: Information services offered — processes involved and present practices (Chairman: Shri I.R. Kumar; Rapporteur: Shri V. Govindarajulu).

5) **Session 5**: Marketing of information products — Pricing factors (Chairman: Dr P.C. Shah; Rapporteur: Shri K.A. Ranganath). Visual presentations were made on the information services developed and offered in specific areas, such as Plantation Crops, Food Science & Technology, Agricultural Science, Medicinal & Aromatic Plants, Textile Industry, etc. The networking efforts being made in various sectors and organizations featured in some of the papers.

## Recommendations

The major recommendations arising out of the presentations and the discussions that followed stem from the common desire to hasten the process of adoption of modern systems as speedily and effectively as possible, with due consideration for needs specific to various sectors.

The following recommendations were adopted at the valedictory session held on 19 January (Chairman: Prof. K.A. Isaac; Rapporteur General: Shri R.N. Sharma):

1) Efforts and programmes aimed at evolving, standardising and using automated systems are in progress at a large number of centres. There is obvious need for a proper stock-taking of all these, so that the knowhow already developed can be evaluated and shared. This would, in addition, help in avoiding duplication of effort. A suitable mechanism for the purpose needs to be evolved.

2) It is esential to make an inventory of the facilities available in various centres, as also to assess the requirements, both specific and general, in respect of systems, hardware, software and personnel.

3) Welcome efforts are afoot to network and integrate various systems and services. It would be in the fitness of things to evolve guidelines, norms and specifications for networking at local, regional and national levels. A high level committee needs to be set up for this purpose.

4) One major hurdle in developing capability for online access to databases among library professionals lies in making them familiar with the communication software. Organized effort in making these online users thoroughly familiar with the capabilities of commonly used communication software packages and developing in them the capability to check whetehr the trouble lies in the telephone line or the modem when online access fails, will help considerably in increasing the use of online databases by libraries.

5) Dedicated effort to take the attractive features from the retrieval software developed or available in all the major libraries and development of a software which can be used by all libraries will be necessary before the benefits of networking eforts can be realised. In the meantime information centres can make use of available software packages without prejudice to the need for a wider networking programme.

6) Side by side with efforts to evolve information systems, adequate attention needs to be paid to the development of indigenous capabilities in respect of fabrication of the basic materials. A coordinated action programme involving various concerned ministries, industrial establishments and societies needs to be worked out for the purpose on priority basis.

7) An issue specific to countries like India is that the systems evolved must not only be cost-effective, but also capable of catering to the requirements of a multi-lingual clientele. Provision for the latter must necessarily form an essential component of policies and programmes formulated.

8) Building up of bibliographic detabases has todate remained relatively neglected. Due attention needs to be paid to this aspect.

9) Standardization of classification systems, practices, formats, etc. needs to be taken up at national level with involvement of all interest groups concerned with development of information systems.

10) The Government of India is urged to finalize the formulation of a National Information Policy which has been on the anvil for quite some time. The Policy evolved should have adequate provision for legislative measures pertaining to matters like authenticity, secrecy, ownership and copyright.

11) With fast changeover to automated systems, due attention needs to be paid to appropriate user studies and user education programmes in respect of these systems. While taking note of the ongoing efforts by NISSAT, INSDOC, DESIDOC, DRTC, etc. to organize training facilities for library and information service professionals for management of computerized information systems and services, the conference feels that these facilities need to be considerably augmented to meet the ever-increasing manpower requirements in this area. In this task NISSAT and its sectoral centres should play an increasing role by expanding and upgrading the existing facilities.

12) To effectively serve its purpose, information must be communicated to the end-uers. To achieve this it is important that packaging of the information commodity for effective communication should be in line with the users' level and background in terms of language and presentation. This needs acquisition of certain essential communication skills and capabilities. NISSAT and other agencies are, therefore, urged to extend support in a big way for organizing training facilities directed at upgrading communication skills of library and information science professionals.

13) It is important to undertake cost-benefit analyses of use of automated systems *vis-a-vis* manual systems.

14) Large libraries having machine read able databases on book catalogues stand to gain if they exchange these databases with one another.

15) Bodies like the SIS should take steps to catalyse extended 'computer literacy' among the youth and the non-white collar workforce with the aim of creating awareness about the role of information technology in improving the quality of life.

16) Databases need to be built up on ecological/environmental topics, land use patterns and other similar themes of importance to the common man.

Ram D. Taneja
R.N. Sharma

# NISSAT-INSDOC Courses on Computer Applications to Library & Information Activities 1991-92

In collaboration with NISSAT, INSDOC has been organizing short-term courses in computer application to library and information activities covering a number of packages like CDS/ISIS, dBASE III Plus, Lotus 1-2-3, Wordstar. During 1991-92 eight more short-term courses the details of which are given below, are being arranged.

1. Computer Application to Library & Information Activities (for freshers).

   *Course Content*

   The course comprises MSDOS, CDS/ISIS, dBASE, Wordstar, Lotus 1-2-3 and theoretical classes on Microcomputer hardware, files and database organisation, computerised information retrieval, common communication format, etc.

   Duration : 15 April to 10 May 1991 (4-week)

   Seats : 15 (Not available).

2. CDS/ISIS (Ver. 2.3) with PASCAL Interface (for those having exposure to CDS/ISIS (Ver. 1.0).

   *Course Content*

   The course comprises all the facets of CDS/ISIS (Ver. 2.3), programming through PASCAL and its application in the CDS/ISIS (Ver. 2.3) environment. Emphasis is provided on the creation of databases relating to various library & information activities and generation of computerised products like accession list, author index, subject index, library catalogue, directories of various kinds and so on.

   Duration : 8 July to 2 August 1991 (4-week)

   Seats : 15 (Available).

3. Computer Application to Library & Information Activities (for freshers).

   *Course Content* : As in Sr. No.1.

   Duration : 19 August to 20 September 1991 (5-week)

   Seats : 15 (Available).

4. Bibliometrics

   *Course Content*

   Bibliometrics: definition, scope, limitations; Mathematical bibliometrics; Bibliometric laws; Bibliometric tools; Application of bibliometric methods for generating various indicators including science indicators; Indian contributions in bibliometrics; Computerised searching of Science Citation Index in CD ROM.

   The last two days of the course will be devoted to presentation of papers by the participants and discussion of the bibliometric problems on which the participants are working.

   Duration : 30 September to 12 October 1991 (2-week)

   Seats : 15 (Available).

5. Computer Application to Library & Information Activities (for freshers).

   *Course Content* : As in Sr. No. 1.

   Duration : 11 November to 13 December 1991 (5-week)

   Seats : 15 (Available).

6. DBMS and dBASE

   *Course Content*

   The course consists of both theoretical and practical classes and covers the following: Basics of database management systems, with examples of relational database management systems, dBASE III Plus and their library applications in acquisition, processing, circulation control & the salient features of dBASE IV.

Duration : 30 December 1991 to 24 January 1992 (4-week)

Seats : 15 (Available).

7 Recent Development in Information Science & Technology (Refresher course for working librarians).

*Course Content*

Indexing, abstracting and thesaurus construction. Technical writing, Bibliographic formats. ISBD, ISO 2709, CCF & UNIMARC.

Bibliometrics & Informetrics
Computer Application to Library & Information Activities
Computer communication networks
Computerised databases and on-line searching
CD ROM databases & on-line searching
Electronic Mail
Desktop Publishing
Reprographics
Teletex, Videotex, etc.

The course comprises lectures and demonstrations.

Duration : 4 February to 14 February 1992 (2-week)

Seats : 15 (Available).

8. Computer Application to Library & Information Activities (for freshers).

*Course Content* : As in Sr. No. 1.

Duration : 2 March to 4 April 1992 (5-week)

Seats : 15 (Available).

- Seats will be filled up on first-come-first served basis.
- **Course fees :**

| | |
|---|---|
| 5 week course | Rs. 3,200/- (with accommodation)<br>Rs. 2,500/- (without accommodation)<br>US $ 1,600/- (with accommodation) {for foreigners} |
| 4 week course | Rs. 2,500/- (with accommodation)<br>Rs. 2,000/- (without accommodation)<br>US $ 1,250/- (with accommodation) {for foreigners} |
| 2 week course | Rs. 1,250/- (with accommodation)<br>Rs. 1,000/- (without accommodation)<br>US $ 650/- (with accommodation) {for foreigners} |
| 1 week course | Rs. 650/- (with accommodation)<br>Rs. 500/- (without accommodation)<br>US $ 350/- (with accommodation) {for foreigners} |

Course fees are to be sent in advance in the form of cheque or demand draft payable to **Director, INSDOC, New Delhi.**

**Refund of Course Fees:** (1) If the intimation regarding cancellation of admission is received before one month from the date of commencement of the course, the course fees may be refunded after a deduction of 10% of the total amount of the fees. (2) If the intimation regarding cancellation is received within one month from the date of commencement of the course the fees will be refunded after deduction of 20% of the total amount of the course fees. (3) No refund will be made if no intimation is received before the date of commencement of the course.

**Eligibility:** The courses are exclusively meant for library and information professionals. Persons working in libraries/information centres and having library science/computer science qualification are eligible to apply. Fresh candidates having post-graduate degree in library and/or information science are also eligible to apply.

**How to Apply :** Application are to be made in prescribed form available on request.

**Contact :** Shri B.K. Sen, Deputy Head, Education & Training Division, INSDOC, 14, Satsang Vihar Marg, New Delhi 110 067. Phone: Direct – 6863521, PABX – 660141, 660143/Extn. 223, Telex: IND 2499.

# News and Events

### Networking of Libraries and Information Centres in Pune: MACS Seminar

Senior representatives of prominent educational and research institutions in and around Pune are exploring the possibilities of establishing a computerised library network in the city.

Such networking, which is already being set up in Delhi (DELNET) and Calcutta (CALIBNET), would greatly help in locating the availability of and obtaining the required information. It would eventually form part of a University Grants Commission, initiated national hook-up among all universities and 200 important research institutions.

Among those who participated in a recent day-long seminar on "Networking of libraries and information centres in Pune — Need and solutions", were the noted astrophysicist, Dr Jayant Narlikar, Maharashtra Association for the Cultivation of Science (MACS) director, Dr. A.D. Agate, the Mahratta Chamber of Commerce and Industries (MCCI) Secretary, Dr. B.R. Sabade, Dr S.G. Mahajan, chief librarian, university of Poona and head of the library sciences department, Shri R.P. Hans, DGM, Pune Telecom and Shri R. S. Singh, Area Coordinator NICHEM, NCL, Pune.

The convener of the seminar, Shri S.N. Kulkarni, chief librarian, MACS informed the gathering that a survey recently conducted revealed that there were 38 major libraries in Pune of which 19 had computer facilities.

Five libraries were planning to instal computers within three months to a year's time. Of the 16 libraries using computers effectively, two claimed to have fully computerised facilities while the remaining were partly computerised. Of the 177 library personnel in various libraries, 57 were acquainted with the use of computers while 50 others were keen to learn.

It was also noted that six libraries in the city had access to international data banks.

With this background, Pune had a promising future and was ideally suited for introducing library networking, Shri Kulkarni said. He, however, added that before this could be achieved, a number of hurdles would have to be overcome such as the inability of some libraries to go in for expensive software.

In his welcome address, Dr A.D. Agate, director, MACS, said that the information explosion, scattering of all types of information and the language barrier posed serious problems to a researcher, student or a scholar interested in obtaining the required information.

The volume of information was increasing at the rate of 13 per cent per annum; virtually doubling every seven years. In such a situation, no single library could hope to be self-sufficient. Neverthless, given the advances in digital computers and telecommunications, and by introducing library networking, these hurdles could be overcome, he said.

Dr Agate referred to OCLC, USA and the library networks in the country, such as those in Delhi, Calcutta and of the Defence Research and Development Organisation.

He said the University of Poona's Jayakar Library had been assigned a pilot study to explore the possibilities of establishing library network in the city.

Dr A.B. Joshi, agricultural scientist and vice-president, MACS said Pune was fast becoming an important scientific centre in the country and therefore it was important that a system such as library network should be made available to the researchers here.

Speaking on 'Scientific libraries from a user's point of view'. Dr Jayant Narlikar, director, Inter-University Centre for Astronomy and Astrophysics (IUCAA), observed that library facilities are essentially used by students, teachers, researchers, authors, reviewers and non-specialists.

An ideal library should be able to cater to the varying needs of these different types of users. While the human and personal touch always helps, today one cannot do without automation, Dr Narlikar said, starting that automation has several advantages and far outweighs the manual efforts at data storage.

A steering committee to formulate the proposal for conducting a feasibility study on the subject has been formed.

### Computer Applications to Lib & Info Work — DRTC–NISSAT Course

DRTC Bangalore conducted a short-term (six-week) course on Library and Information Work during 16 Jan-26 Feb. 1991 at Bangalore.

The objective of the course, sponsored by National Information System for Science and Technology (NISSAT) was to provide an opportunity to persons qualified for performing technical and housekeeping activities in an information system or centre, the necessary profession at knowledge and skills specially in using computers to render information services in libraries and other kinds of information service systems. The emphasis was on skills essentially required for designing, developing, organizing, operating, controlling and evaluating computerised systems for secondary information work and service. Knowledge of systems analysis, computer service, programming, use of software of proven capability and planning and management of computerised information systems was imparted to the participants.

The next course on similar lines is scheduled to be held during July-August 1991.

## AGLIS National Convention

The Association of Government Librarians and Information Specialists (AGLIS) held its National Convention and Seminar during 20-21 Dec. 1990 at New Delhi. The Central theme was computerisation of government libraries and information centres: Progress and prospects.

The convention was inaugurated by the Dy. Minister of External Affairs and Finance, Shri Digvijay Singh. About 100 professionals participated and 27 papers were presented in three technical sessions:

1. State of Art in Computerisation
2. Computerisation Programmes in Govt. Libraries and Information Centres.
3. Problems in Implementation

The concluding session drafted and adopted the recommendations emerging from the deliberations. The Session Chairman were Dr S.S. Murthy Director DESIDOC, Prof T. Viswanathan, Director INSDOC, Shri Harjit Singh, Adviser Environment & Forests, Prof J.L. Sardana and Prof. A.P Srivastava of Delhi University.

During the sessions, demonstration of LibSys and LIBINFO, the library software packages was given by the respective companies.

The Convention made the following recommendations.

1. In order to acceleration the pace of computerisation in Govt libraries, each library in the Govt departments and public undertakings should be provided with suitable hardware and software free of cost.
2. Databases should be developed through appropriate departments/agencies in major subject areas. These should be made accessible to the concerned libraries through networking.
3. Government should formulate a National Policy on Library and Information Science through a Central Act.
4. Library and Information Science syllabi of the university courses should include a special paper on computer applications with adequate emphasis on practical aspects.
5. Government should set up an appropriate agency to formulate standards and norms for various aspects of computerisation. Such an agency should work in close collaboration with AGLIS.
6. Government should sponsor/finance research projects in the field of computer applications in library and information work through NISSAT, UGC, DOE and other similar agencies.
7. AGLIS should further pursue the matter on pay structure of Central Govt library staff announced by the Govt with appropriate authorities.

Shri V.K Rangra, President, AGLIS was Director of the Seminar. Shri Ambrish Kumar and Dr Pandey, were Organising Secretary and Rapporteur General respectively.

## UNDP Consultancy Services for SSI

Small and medium private sector enterprises in India can avail themselves of the free consultancy services of the United nations International Short Term Advisory Resources (UNISTAR) in a wide range of fields, which includes information technology also.

UNISTAR is a unique programme designed to aid the private sector in developing countries. It arranges short-term missions abroad by leading international experts and managers for sorting out problems hindering enterprises.

The technical and administrative services provided range from engineering, product development, industrial design, manufacturing, marketing and quality control to business management, accounting and financial structuring. The services are distinct from industrial management consultancy. Furthermore, the UNISTAR programme does not charge any fee for its services except travel, accommodation and living expenses incurred during the assignment, which can be paid in local currency.

Apart from helping business people or investors who need specialised assistance in their day-to-day operation and advice on expanding their operations, UNISTAR can provide a broader range of help for the entire industry to maximise its output. Such services would be valid for the existing units, new enterprises and jointly ventured ones.

UNISTAR's consultants, according to reliable sources, are eminently qualified professionals from developed countries with a proven track record in the field.

## CD-ROM Demonstration: American Center Library

The American Centre Library, New Delhi organized a demonstration and discussion of its various reference materials on CD-ROM on January 10, 1991.

CD-ROM disk, it was explained, can store 2,70,000 pages of text or 550 million bytes of user data or 15,000 pages of computer graphics on a $5\frac{1}{4}$ inch disk. Several print-based publishers have now produced a significant number of reference works on disks. The American Center Library has acquired several such titles on CD-ROM. The objective was to alert the local librarians and information scientists to usage of these specific and unique American reference resources, such as the "Facts on File", "Readers Guide to Periodical Literature", "USIA's Public Diplomacy Query" and the "International Drug Library", "Books in Print", etc. American Center visitors may use the IDL disk to search for data on almost any aspect of illegal drugs-production, trafficking, interdiction and law enforcement, as well as prevention and rehabilitation.

The library was able to successfully share with professional librarians and information scientists its ongoing commitment to explore and use new developments in electronic information retrieval, storage and delivery. The invited audience, around 25, included persons from the local universities, Government of India ministries and a few special libraries, such as INSDOC, Publications and Information Directorate (CSIR), NISSAT and DESIDOC.

## Library and Info Services in Astronomy and Astrophysics

The form for Resource Sharing in Astronomy and Astrophysics (FORSA) organised a workshop on Information Services in Astronomy and Astrophysics at PRL Ahmedabad The occasion was the 14th meeting of the Astronomical Society of India held during 29-31 January 1991

The main objective of the workshop was to discuss collaborative resource sharing projects and to ascertain the services and products needed by astronomers. Participants from Indian Institute of Astrophysics, Bangalore; Inter-University Centre for Astronomy and Astrophysics, Pune; PRL Ahmedabad; Radio Astronomy Centre, Ooty; Roman Research Institute, Bangalore; and TIFR, Bombay attended the workshop

Following the presentations made at the joint Session, the following points emerged as a result of the discussion:

1. All the libraries should conform to standards such as AACRII, CCF, etc.,. so that databases can be exchanged. As decision has been taken to follow the CCF, but since several issues are involved especially standards such as UDC, AACRII, CCF, Astronomy Thesaurus, Authority File for rendering personal names, Database Product Manual and Retrospective Conversion which require detailed discussions; it was agreed that another meeting should be held for this purpose.
2. A suggestion was made that the Librarians should communicate daily by E-Mail for day to day requirements.
3. Serious concern was voiced by several participants regarding the meagre resources available in the University libraries. The astronomers working in the universities were informed that they could contact the nearest FORSA Library for their requirements.
4. It was announced that INIS & INSPEC databases are available on CD-ROM at BARC. The possibility of using these databases will have to be explored.
5. "Current Contents" is available on Floppy Disks at PRL Library. There was a discussion as to whether the floppies could be duplicated and it was clarified that it could be done only after obtaining a licence from the publishers. PRL could consider giving Current Awareness Service to a few scientists on receipt of their Interest Profiles.
6. The suggestion that FORSA News and also List of new books received on Astronomy in FORSA Libraries, be published in ASI Bulletin was welcomed by the Astronomers. It was agreed that it could be published in either Khagol (IUCAA Pub.) or ASI Bulletin.
7. The participants agreed to the proposal of preparing a "Directory of Astronomers".

### Jodhpur ILA Conference

The 36th annual conference of the Indian Library Association was held at the University Campus, Jodhpur during 26-29 December 1990. More than three hundred librarians and information scientists from all over India participated. It was inaugurated by the Maharaja Gaj Singh of Jodhpur, M.P. Mr. S.C. Biswas, President, Indian Library Association presided.

The theme of the seminar held between 27 and 29 December was on "Computerization and Library Networking" The director of the seminar was Prof. M.K.R. Naidu, Librarian and Head of the Department of Library Service, SNDT University, Bombay.

Some of the resolutions adopted which have a direct bearing on the theme are:

UGC, NISSAT, etc. should be approached for funds to purchase hardware and software for libraries;

Degree courses should be restructured as Bachelor in Library Science and Computer Applications;

Library networking to be given high priority by Central and State Government agencies, UGC, NISSAT, etc;

INFLIBNET should start functioning immediately;

Network should be able to generate funds and, as far as possible, be self-sufficient.

### Science Indicators for Developing Countries — Paris Conference

CNRS Paris was the prime mover behind the international conference on science indicators for developing countries held during 15-19 Oct. 1990 in Paris. This largely attended conference covered a wide area of science indicators with weightage to bibliometrics. Shri B.K. Sen (INSDOC) who attended the conference submitted a paper on Evaluation of recent scientific research output using the Impact Factor — a new technique developed for generating performance indicators of various scientific research institutions.

### Conservation of Manuscripts, Books and Documents

Manuscripts, rare printed books and significant archival material constitute our most precious cultural heritage and their proper preservation is vital to protect them from further decay and damage. Such materials are housed in museums, archives, libraries, oriental research institutes and are also available with private persons. It is observed that most of them are deteriorating fast due to manifold problems that afflict them.

The Intach Indian Conservation Institute, Lucknow has launched a Project entitled, "Conservation status of Manuscripts, Books, Archival and Like Material". To begin with it is making a survey of conservation status of such items. A proforma has been prepared to collect preliminary information and the same has been sent to the several libraries, museums, archives and oriental research institute of the country of collecting the desired information. A local advisory committee consisting of eminent persons associated with libraries has also been formed to advise on the implementation of the Project. Cooperation from institutions and persons having such material is solicited. They can contact Shri O.P. Agrawal, Director General, Intach Indian Conservation Institute, A1/11, Sector B, Aliganj Scheme, Lucknow 226 020 for further details.

### Bamboo Information Centre

The Bamboo Information Centre — India (BIC-India), established in July 1989 with financial support from the International Development Research Centre, Canada (DRC), is located at the Kerala Forest Research Institute (KFRI), Peechi, India, where extensive research programmes on bamboo are going on.

The BIC-ndia seeks to acquire, organize and disseminate documents and research data relevant to bamboo research to persons involved in bamboo research and its utilization. Its specific functions are to:

1. develop and manage databases of Asian bamboo literature, scientists and current research programmes;
2. provide search services form the database and document delivery service;
3. publish a compendium on bamboos describing all the commercially important species found in India;
4. prepare a compendium on bamboos describing all the commercially important species found in India;
5. popularize research results by producing extension bulletins and slide sets; and
6. publish a directory of bamboo scientists and current research programmes.

BIC–India has been maintaining computerized databases for literature scientists and research programmes. The databases were developed using the information service software package developed by UNESCO (CDS/ISIS).

The document database called the BIC-DOC contains more than 500 items at the moment and constantly updated with new items. BIC-PROJ, the database for ongoing bamboo research projects and BIC–PER, the database for scientists contain more than 70 entries each. The databases are also updated regularly.

**Services:** BIC–India provides a wide range of services in pursuit of its objectives. These include document delivery service, question-answer service, referral service, publications and translation services.

For further details contact Mr Ravindran, Project Coordinator BIC, KFRI, Peechi, Kerala 680653.

### Computerised Services at NICFOS

With the establishment of the central computer facility devoted to information retrieval at NICFOS, the Centre is now in a position to provide personalised service to individuals or organisations based on their user interest profiles. This latest service with the backing of the data-base on food science and technology covering the world literature marks a new era in the setting up the National Information Centre for Food Science and Technology.

With the active support from CSIR and DSIR under the NISSAT Programme NICFOS has, over the years, developed into a full fledged information service centre to meet the information needs of users at national and international levels in food science, technology, nutrition and allied areas through its multifaceted action programmes in library, documentation, abstracting, micrography and reprographic services. These include 'Food Technology Abstracts' (Monthly), 'Food Digest' (Quarterly), 'Food Patents' (Quarterly), 'Microform Information Service' (Quarterly); Bibliographies, Monographs, Directories and State-of-the-Art Reports. These are fully backed up by photocopying and micrographic services. The centre recently moved into its new building.

**The new library building at CFTRI, Mysore which houses NICFOS**

### Portable CD-ROM Readers

Portable CD-ROM workstations are making their debut on the crowded optical disk stage, most notably at the CD-ROM Europe Exhibition held in London, UK last year.

Shown in an artist's impression only at the exhibition, and with no prices available as yet, was a rugged new portable "tropicalised" unit from the Belgian company, Devlonics. The unit is described as being intended for "computer unfriendly" environments. It is fitted with a low-power CD-ROM integral drive and uses a liquid crystal display screen. It comes with a removable, rechargeable battery pack. Typical power consumption is given as 12W, maximum consumption 17W. The case is waterproof and dustproof, and the whole unit weights 8 kg.

A UK firm, Comcen Technology Ltd., displayed its CD-Reader, which has an integral CD-ROM drive. The equipment is designed to give users access to databases as simply as possible for straightforward text retrieval. It uses a liquid crystal display, and can be fitted with a hard disk drive in addition to the standard floppy and CD-ROM drives —*Information Media & Technology*, Vol. 23, No. 5.

### NISSAT-INSDOC Courses In 1990

Seven short term courses listed below were organised under joint auspices of the National Information System for

| | Course | Dates | No. of Participants |
|---|---|---|---|
| 1. | Computer application to library and information activities | 18.12.89 to 12.1.90 | 13 |
| 2. | Computer application to library and information activities | 5.2.90 to 2.3.90 | 14 |
| 3. | Computer application to library and information activities | 2.4.90 to 27.4.90 | 20 |
| 4. | CDS/ISIS (Ver. 2.32) & PASCAL | 9.7.90 to 3.8.90 | 15 |
| 5. | Computer application to library and information activities | 20.8.90 to 14.9.90 | 22 |
| 6. | Bibliometrics | 22.10.90 to 28.10.90 | 12 |
| 7. | DBMS & dBASE III Plus | 19.11.90 to 14.12.90 | 18 |

Science and Technology (NISSAT) and the Indian National Scientific Documentation Centre (INSDOC) during 1990 These courses were conducted at INSDOC by Education & Training Division, INSDOC. Sri B.K. Sen, Deputy Head, Education & Training Division, acted as the Course Coordinator.

The faculty was chiefly drawn from INSDOC with some experts from other organisations. The response to the courses has been highly satisfactory. In order to accommodate more applicants, other courses have already been announced for 1991-92.

### UGC-AMU Refresher Courses

The Academic Staff College of Aligarh Muslim University is currently conducting refresher courses in library and information science for the central and northern regions. The topics are: (i) Trends and developments in special librarianship (ii) Information management and (iii) Trends in library management. The programme concludes in March 1991. Course Coordinators: Prof. Mohd. Sabir Husain, Mr. Almuzaffar A.G. Khan and Mr. Shabahat Husain respectively. Shri P.C. Bose Head, Agricultural Research Information Centre of ICAR acted as a Resource Person and delivered lectures on (i) Bibliographic data-base: AGRIS (ii) Bibliographic data-base: CAS (iii) Organising Agriculture Library System: An Overview and (iv) Organising agriculture library system with special reference to India.

### NICFOS SDI Service

A few years back a survey was conducted among users of the services of NICFOS regarding their option for selective dissemination of information (SDI) in the area of food science and technology. The survey indicated that there was need for the service. Recently this new service has been started with the installation of computer facility at NICFOS.

The Centre is now supplying specific information needed by the users on the relevant topic of their interest based on keywords supplied by them. The SDI service is provided by searching the current tapes of the FSTA database produced by the International Food Information Service. The relevant abstracts obtained based on the profile through the computer printout will be mailed regularly. There is also scope for the user to alter to profile consequent to the receipt of our prinout knowing the relevance or otherwise of the abstracts supplied. We are sending the printouts on trial basis for two months. If users find this service useful they can start subscription for regular SDI service.

Users are requested to send their profile in the prescribed form the available from Area Co-ordinator, FOSTIS, CFTRI Mysore-570 013.

### Indian Science Citation Index

Considering the poor coverage of Indian S&T periodicals in the Science Citation Index (in 1988, 11 periodicals were covered out of some 700), it was decided to generate one Indian Science Citation Database at INSDOC as part of the activities of the National Centre on Bibliometrics (a NISSAT supported project). Indian papers are mostly cited by Indian Scientists. However, this particular citation picture does not get reflected in the citation scenario of the Science Citation Index. As a result, in most cases, citation scenario of Indian papers compiled on the basis of the Science Citation Index, remains incomplete. One of the major objectives of the Indian Science Citation Index is to project the complete citation scenario of the papers of Indian scientists, using both Science Citation Index and Indian Science Citation Index. The software for generating the database has already been developed and tested. In fact, two softwares have been developed — one is UNIX based and other one is MS-DOS based. In the earlier case UNIFY package has been used and the later case CDS/ISIS (Ver. 2.3) has been used.

In the first phase, such research periodicals as contain more than 80% research papers are being considered. Of course, this criterion ensures that coverage extends to all research periodicals being generated by CSIR, ICMR, DRDO & ICAR and also by important research institutes like — Indian Association for the Cultivation of Science, Indian National Science Academy and so on. The remaining periodicals will be covered in later phases. The data input has already started with the periodicals for 1990 and it is expected that by June 30 this year, more than 100 research periodicals will be covered.

Database will generate apart from the citation scenario of the papers of individual Indian scientists, source index, which will list the papers published in a year; subject index and affiliation index. It is intended to start rendering services from this database from July 1991 onwards.

### TEXINCON

The National Information Centre for Textile and Allied Subjects (NICTAS) is publishing a quarterly under the above title. Each issue of TEXINCON contains:

- One lead article in a significant area written by a specialist for TEXINCON only.

- Carefully selected self contained summaries of articles, books, developments, all publications of Indian Textile Research Organisations, etc. useful to identified Indian groups of users.

Users' Groups index, Keyword index & Title index.

TEXINCON is also available on IBM-PC Compatible diskette. Subsription: Hardcopy Rs 200; Diskette Rs 450.

Inquiries to: Project Coordinator NICTAS, Third Floor, ATIRA, Ahmedabad 380 015.

### Popular Science Through the Media — NCST Award for Dr Phondke

Dr B. Phondke Director PID (CSIR) and Dr R. Sreedhar shared this year's award for popularising science through the media. The awards were given on February 28, 1991 by Shri Mohan Dharia Dy. Chairman Planning Commission.

Instituted in 1988, these annual awards are given by the National Council for Science and Technology (NCST) Communication of the Department of Science and Technology.

**Intergovernmental Informatics Programme (IIP)**

The third session of the Intergovernmental Committee of the Intergovernmental Informatics Programme (IIP) was held in Paris, from 26 to 30 November 1990.

Representatives of 33 Committee's Member States, 41 Unesco Members States, organisations of the UN System and intergovernmental and non-governmental organisations participated in this session during which the priorities and funding of the Programme had to be examined.

The priorities of the IIP as set out by the Committe include:

- human resources for training;
- network development between academic institutions;
- research/development through software development;
- assistance in the choice of strategies and policies for the introduction of informatics for development.

The Committee further encouraged the Member States to establish national Focal Points in order to create the best conditions for the implementation of the projects.

COMNET

The Directors' Meeting of the International Network of Documentation Centres on Communication Research and Policies (COMNET) met in Nairobi, Kenya, from 4 to 6 December 1990. The meeting, organised by the African Council for Communication Education (ACCE), was chaired by Ms Kirsti Thesen Saelen (NORDICOM, Norway) the COMNET co-ordinator, and attended by ten representatives of COMNET centres, and three observers namely the Friedrich-Ebert-Stiftung, FID, and the International Association of Mass Communication Researchers (IAMCR). It was the first time that a COMNET Directors' meeting was held in the African region.

The main points to the discussed concerned, first, the structure of the network which needs to become better structured, more dynamic, more concentrated on output and dialogue and, secondly, financing and external sponsorship which have to be sought.

It is notable that this evolution process has already started. To begin with, the revised version of the *Unesco Mass Communication Thesaurus* will be available in 1991. Conditions of memberships have changed and a new system has been introduced: all non profit-making institutions in the field of communication/documentation that share information with others are now able to join COMNET.

At the Directors' Meeting, it was decided that new organisational procedures will be spelled out within this overall structure, with considerable devolution to the regional level; final decisions will remain however with the International Committee.

The regional COMNET centres will be closely associated with Unesco's regional communication offices and with regional research associations.

The meeting also discussed the main outlines of a COMNET development project to be submitted for funding to a number of potential donors.

The next international COMNET meeting will be held in Sao Paolo, Brazil, in 1992.

**ISIS Users Group Meeting**

A project was taken-up by DESIDOC under the sponsorship of NISSAT to develop a library automation package using Micro-ISIS. The first phase of the package is now ready for field testing. This software package incorporates circulation control, acquisition control and on-line catalogue using ISIS Pascal. The package is currently being implemented at the DST library which has more than 5000 records. The serial control module is presently available in COBOL and will be converted to ISIS Pascal in the next phase.

A meeting of the users' of Micro-ISIS was organised in DESIDOC, Delhi during 7-8 March, 1991. The purpose of the meeting was to demonstrate the library automation package and to obtain the experts' comments and recommendations before the package is finalised for release.

Under another NISSAT project, a Devanagiri version of the ISIS package was developed. This package was also demonstrated to the participants.

Both these packages will be available to licensed users of CDS/ISIS. Details will be published in next issues of NISSAT Newsletter.

**ATTENTION CDS/ISIS USERS**

The Users of CDS/ISIS are requested to send the problems faced by them on Micro-ISIS to NISSAT for clarification. Also, if you have faced some problem and rectified through some sources, do let us know, so that we can publish it for the benefit of other colleagues. Address your Communication to the Joint Adviser, NISSAT/DSIR, Technology Bhavan, New Delhi-110 016.

**NICFOS Annotated Bibliographies**

1. Aseptic Packaging (1983-85)
2. Beet Molasses (1959-1988)
3. Cassava (1977-1986)
4. Cassava Starch (1976-1986)
5. Cocoa Flavour and Aroma
6. Cultured Milk (1977-1986)
7. Energy Conservation in Food and Allied Industries (14 Parts)
8. Ethanol Production (1976-1986)
9. Extruded Food and Machinery (1968-1986) 4 volumes
10. Food Grains (Publications of CFTRI and DFRL, Mysore)
11. Fumaric acid (1969-1988)
12. Indian Sweets (1969-1987)
13. Instant Noodles (1970-1985)
14. Khoa (1969-1987)
15. Lemon Juice (1978-1987)
16. Lemon Oils (1978-1987)
17. Lemon Pectin (1978-1987)
18. Papad (1969-1987)
19. Pomegranate (1969-1987)
20. Potato Starch (1977-1986)
21. Rice and Wheat Quality (World Literature) 1987 (Rice Quality 1969-1986; Wheat Quality 1975-1985)
22. Rice Bran and Rice Bran Oils (1970-1980) (1983)
23. Soy Sterols (1969-1988)
24. Tamarind Gums (1969–1987)
25. UHT-Milk (Spoilage) (1975-1988)

The cost of each bibliography or per part or per volume is Rs. 50.00. Postage extra.

For copies Write to:

The Area Co-ordinator, FOSTIS, CFTRI,
Mysore-570 013, Karnataka.

**Superconductor Abstracts**

*Superconductor Abstracts*, a monthly Journal aims to serve as a medium for rapid dissemination of information to scientists and technologists about the recent trends and development in the discipline of High Temperature Superconductivity. The journal is published by CGCRI, Calcutta.

Abstracts are arranged alphabetically by author's name. Entries are serially numbered. There is an alphabetical subject index referring to the text by the serial number.

**The Lucknow Librarian**

While reconstituting its Editorial Board, the *Lucknow Librarian*, a quarterly journal of the U.P. Library Association, has secured the services of Prof. B Guha, Prof. Krishna Kumar, Prof. S.M. Tripathi, Shri S.B. Ghosh, Dr M.P. Satija and Dr A.S. Chandel as members of the Editorial Advisory Board. Prof. S.N. Agarwal continues as the Editor of the Journal.

**BOSLA Resumes Activities**

The Bombay Service Librarians' Association (BOSLA) has resumed its activities and plans to organize seminars and training courses for librarians. The new Chairman and Secretary are Dr S.R. Ganpule, Librarian Central Library IIT, Bombay and Shri D.N. Phadke Astt Cibrarian IIT, Bombay. Dr (Ms) Maya Avasia, Librarian TIFR is the Joint Secretary.

Topics of some of the forthcoming seminars are Problems of acquisition of periodicals, Mutilation of books and sharing of experiences in computerization.

**SIS Office Bearers for 1991-92**

Shri S. Nagarajan and Shri P.C. Bose were re-elected President and Secretary respectively of the Society for Information Science for another two year term (1991-1992). Shri Kuldip Chand and Shri I.R. Kumar were elected as Vice-Presidents while Shri H.C. Jain Continues to be the Treasurer. The announcement was formally made at the Annual General Body Meeting of the Society held at Trivandrum on 17 January 1991.

## Obituary

We announce with deep regret the death of Shri Balaram, Scientist, Information Centre for Aeronautics (ICA) on 12 Dec 1990. He was 54.

Shri Balaram was responsible for Documentation, Publication and Dissemination wings of ICA at NAL. He made notable contribution in equipping the NAL library with the required hardware for the in-house computerisation projects and circulation control and in acquiring CD-ROM disks and drive for information retrieval. He was mainly responsible for setting up of National Information Centre for CD-ROM (NICDROM) at NAL under the sponsorship of DSIR (NISSAT), New Delhi.

A man of amiable nature and pleasant manners, he was very popular with friends and colleagues. He is survived by his wife and two sons to whom we offer our sincere condolences.

## World Software Market

According to a recent study by the International Labour Organisation (ILO), the world market for software and computing services will rise to $1163 billion by 1991. The study states that there will continue to be rapid growth in the demand for packaged software, but that data processing will decline in relative importance because of technological advances and software engineering.

With respect to the developing countries, Brazil boasts of the largest market for computer services and software with the figure for 1987 standing at $4217 million. Corresponding figures for India were put at $337 million. The 1987 figures for other developing countries are: $130 million for Mexico, $147 million for China, and $129 million for Singapore. There is only a marginal collaboration between developing and developed countries in the software and computer services industry, concludes the ILO study.

---

## Form IV

(See Rule 8)

| | | |
|---|---|---|
| 1. | Place of publication | New Delhi |
| 2. | Periodicity of its publication | Quarterly |
| 3. | Printer's Name | Dr. A. Lahiri |
| | Whether citizen of India? | Yes |
| | Address | Technology Bhawan, New Mehrauli Road,<br>New Delhi-110016 |
| 4. | Publisher's Name | Dr. A. Lahiri, Jt. Adviser, Department of Scientific and Industrial Research, Govt. of India |
| | Whether citizen of India? | Yes |
| | Address | As above in (3) |
| 5. | Editor's Name | Ram D. Taneja |
| | Whether citizen of India? | Yes |
| | Address | Society for Information Science, PID Building, Hillside Road, New Delhi-110 012 |
| 6. | Names and addresses of the individuals who own the newspaper and partners or share holders holding more than one per cent of the total capital | Dr. A. Lahiri<br>Department of Scientific and Industrial Research,<br>Technology Bhawan,<br>New Mehrauli Road, New Delhi-110 016 |

I, Dr. A. Lahiri hereby declare that the particulars given above are true to the best of my knowledge and belief.

March 1991

Sd/- A. Lahiri
Signature of Publisher

**R.N.-34608/78**
**RNI New Delhi**

Laser Typeset by ADR Enterprises, Saket, New Delhi-110017
Printed at: Natraj Printers, 80F, Kamla Nagar, Delhi-110007

[illegible]
24 1991
STORE

ISSN 0970 - 0188
Apr. - Jun. 1991

# 91/2

# NISSAT
NEWSLETTER

ly Organ of National Information
ystem for Science & Technology
Department of Scientific &
Industrial Research, New Delhi.

# NISSAT

NEWSLETTER

Vol. 10 No. 2 April-June 1991

**Editorial Committee**

Dr. A. Lahiri
Jt. Adviser (NISSAT)
Department of Scientific & Industrial Research
New Delhi-110016

(Smt) S. Ravindran
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri B.G. Sunder Singh
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri S. Nagarajan, President
Society for Information Science
c/o PID, New Delhi-110012.

Shri P.C. Bose, Secretary,
Society for Information Science
c/o ARIC, New Delhi-110012.

Shri R.N. Sharma
Society for Information Science
c/o PID, New Delhi-110012.

**Editor: Ram D. Taneja**

**Editorial Office:** S-371, Greater Kailash-I,
New Delhi-110048.

© 1991 DSIR, New Delhi.

Published by the Society for Information Science on behalf of National Information System for Science & Technology (NISSAT),
DSIR, Government of India,
Technology Bhawan,
New Delhi-110016.

**NISSAT Newsletter**, published quarterly, is the official organ of NISSAT, and is aimed at disseminating information concerning programmes, activities and achievements of NISSAT as also of the various centres functioning under it. Additionally, it attempts to project major developments in the field of information science at national and international levels.

Communications concerning the Newsletter may be addressed to Dr. A. Lahiri, Jt. Adviser (NISSAT), Department of Scientific & Industrial Research, Government of India, Technology Bhawan, New Mehrauli Road, New Delhi-110016. Material published in the Newsletter can be reproduced with due acknowledgement to the source.

**Cover Design: N.N. Sethi, Associated Artists, New Delhi-110001.**

## Let Technology and Work Environment Go Hand-in-Hand

We made a point in this column last time that the development of information technology had nearly reached a saturation level. Present efforts are mainly directed towards upgrading existing technologies for higher throughput, larger storage more friendly operation, less trouble-prone systems and the like. While the hardware capacities for information storage, processing and retrieval may increase as rapidly as in the recent past, problems in man-machine interface and intrinsic limitation of users may render the sum total of progress ineffective.

How to keep feeding the new monsters with quality information in sufficient quantities? While direct keyboarding is laborious, time consuming and prone to mistakes, scanning and OCR technologies need vast improvements and voice activated systems are still in infancy.

In developing countries, the problems are com-pounded by the absence of disciplined work culture and environment. It is now well known that the full potential of information technologies cannot be realised unless these get utilized as a matter of routine. That is, the technologies should not stand out in the work environment but get enmeshed within the man-machine environment. If it were so, then situations will not arise where hardware lies idle for want of software and when software is available, there is not enough input to process.

While technological problems could be overcome through greater R&D effort, increasing difficulties are expected in technology utilization especially in respect of the "man" component.

First of all, let us admit that we know very little about what the information users want. At the same time, users themselves are not able to specify what they actually need. No wonder that information ventures are largely based on anticipated demand. For example, librarians consciously allow a large scatter around the core collection to take care of the situation that some day somebody would need some material in the peripheral collection. Database vendors select subjects in which the database could be built easily or adopt subject on the basis of perceptions of users' demands and thereafter apply innovative sales techniques to impress upon the potential clients that they should be using those databases. Users on their part, being unsure of their own requirements and perhaps dazed by the information products in the market, try to make the best of what is readily available.

This situation is very true in the case of S&T information. As a result, S&T information slowly lost ground to business and financial information as the latter is closer to satisfying potential users needs. S&T information handlers, therefore, would have to find new ways of doing their job and evolve a whole new generation of products and services.

The issues highlighted above are, however, well-known though moves to solve the problems have not yet got off the ground. More difficult to understand is the consumption process itself. We shall take it up in a subsequent issue.

— A. Lahiri

NISSAT

NEWSLETTER

Vol. 10 No. 2 April-June 1991

## CONTENTS

Let Technology and Work Environment Go Hand-in-Hand 1

DELNET E-Mail Launched 3

TIFACLINE — An On-line Networked Technology Information System 6

UNESCO's Information Activities in India 9

ISX/CIRC Circulation Program for CDS/ISIS 12

Dr S.K. Joshi Appointed DGSIR 13

Attention CDS/ISIS Licenced Users: Micro CDS/ISIS Ver. 2.32 15

News and Events 1

C.F.T.R.I., MYSORE

*Computerised Network of Delhi Libraries*

# DELNET E-Mail Launched

With the launching of DELNET E-MAIL on 19 March 1991, Delhi attained the distinction of being the first metropolitan centre in India to establish an electronic link among its libraries, marking the beginning of a resource-sharing venture. The venture has the support of the national Information System for Science and Technology (NISSAT) of DSIR, New Delhi.

DELNET was inaugurated by the eminent jurist Dr. L.M. Singhvi, India's High Commissioner to U.K. and President, India International Centre, New Delhi which hosted the function and has been actively spearheading the project.

## Inauguration

Welcoming the Chief Guest Dr. L.M. Singhvi and other invitees, Shri H.K. Kaul, convener DELNET and Librarian, India International Centre, said that in the initial phase ('0' phase), which had just become operational, libraries which had created bibliographic databases would be linked to the Network. The purpose of E-MAIL under this phase was to promote library mailing, inter-library requests, distribution of questionnaires, activisation of professional contacts and demonstration of file transfer with a view to eventually connecting DELNET to national and international databases

**Dr. L.M. Singhvi delivering inaugural address at the launching of DELNET. Seated at his left are Dr. N. Vittal, Secretary DOE and Dr. S. Varadarajan, Chairman DELNET Coordinating Committee.**

and networks. DELNET was thus a co-operative network designed to reduce outlay on library holdings, particularly serials in various ways apart from ensuring optimum use through sharing. For instance Rs.18 lakhs have been saved by way of rationalisation in subscriptions to periodicals for the year 1990-91 in the field of physical sciences, agricultural sciences and medical sciences. It was hoped that soon after '0' phase becames operational, work on phase I would be started.

Speaking on the occasion, Dr. S. Varadarajan, Chairman DELNET Coordination Committee, said that the initiation of Network was a great occasion in as much as it would help solve problems of locating the existing literature. There was widespread ignorance regarding published information which the network would hopefully help to dispel. Also it had become difficult to physically move around the sprawling metropolis to locate the desired informations. E-MAIL should make it possible to locate and transmit this information with speed. The response of the city libraries in this effort was quite enthusiastic. They have agreed to bring their database systems in harmony with and identical to an agreed system to facilitate data search and retrieval. Dr Varadarajan stressed the need for training of library staff in the use of modern techniques. The Department of Scientific and Industrial Research through NISSAT has extended its support to DELNET. A similar network is being established in Calcutta.

Dr. Varadarajan thanked Shri B.M. Khanna (Chief GM, MTNL) for his assurance to provide dedicated telephone lines as and when DELNET needed them. He expressed his grateful thanks to Dr Singhvi and Shri Gonsalves, Secretary IIC for making it possible to work effectively for DELNET. He then requested Dr. Singhvi to inaugurate DELNET E-MAIL and Shri N. Vittal, Secretary, Department of Electronics to give his remarks.

Shri Vittal observed that the Network ushered in an era of sharing of resources through information technology to make the best use of what we have and marked shedding of a culture of secrecy. It would facilitate access to information required by researchers and academicians. The pace of the project, however, needed to be accelerated, Shri Vittal felt.

Inaugurating the Network, Dr. Singhvi expressed great pleasure in launching it and hoped it would gain momentum soon. India was progressing in the direction of information society. The Network system would enable us to access and enjoy the wealth and riches of books and literature which others own. It would give us technological cooperation, federalism and emancipate knowledge from the constraints of space and resources. It remained to be seen, however, what the E-MAIL system offers and what it takes away. He hoped the system would be well maintained and serve the community of library users efficiently.

Mrs S. Ravindran, Principal Scientific Officer, NISSAT proposed a hearty vote of thanks on behalf of NISSAT to Dr. Singhvi for inaugurating DELNET. She expressed her gratitude to Dr. Varadarajan and IIC for bringing the project to fruition. She hoped the project would extend to more libraries of the capital in the subsequent phases. She also expressed her sincere thanks to Shri Kaul for implementing the scheme successfully and to ERNET Group, especially to Dr. Ramakrishnan and Dr. Pal, for providing software support. For installing the modems and providing full cooperation for live demonstration of E-MAIL, she appreciated the efforts put in by DIGICON.

### The Project

Since 1988, NISSAT had been discussing the concept of a Delhi Library Network in various forums. Based on a broad perception of the demand for such a facility, NISSAT commissioned a feasibility study with CMC Ltd which had earlier undertaken a similar exercise for the Calcutta Library Network (CALIBNET). A broad-based coordination Committee under the chairmanship of Dr S. Varadarajan (former DGSIR and Secretary DSIR) was constituted to guide and assist NISSAT and CMC Ltd in the excercise. After extensive deliberations in several forums on the findings and recommendations of the study, the report was finalized in 1990. Uncertainties in the availability of adequate financial resources, constrained immediate commencement of implementation of the Network. In order to keep up the tempo, adoption of Zero phase of DELNET was conceived. In this phase, libraries which have already started activities on computerized catalogues would be connected through libraries: All India Institute of Medical Science, DESIDOC, DST, India International Centre, IIPA, INSDOC, JNU, NPL and NASSDOC.

**Shri H. K. Kaul, Convener (DELNET) welcomes the guests**

**Initiation of the Network is a great occasion : Dr. S. Varadarajan**

**Soon after Dr. Singhvi inaugurates the E-Mail, Dr. Varadarajan reads the message flashed from NISSAT**

The ERNET Group of the Dept of Electronics has provided the required E-MAIL and X.400 communication software. NISSAT would transfer the software and provide modems to participating institutions.

The E-MAIL would facilitate library inter-lending requests, catalogue search requests and professional contacts. In its full blown form, the facility would also allow access to national and international on-line services coupled with the consultative mechanism for rationalization of library acquisitions that NISSAT has initiated in Delhi.

DELNET zero phase is expected to promote resource sharing among libraries, better user services, reduction in foreign exchange expenditure by avoiding duplication and through better communication among librarians, between libraries and library users, and also among users thereby creating a suitable environment for establishment of more elaborate library network.

H.K. Kaul
Ram D. Taneja

# TIFACLINE — An On-line Networked Technology Information System

Radhika Ramnath,
Dept. of Science & Technology, New Delhi.

TIFACLINE is designed as a nationally networked on-line technology information system. TIFACLINE is being set up by the Technology Information, Forecasting and Assessment Council (TIFAC) under the Department of Science and Technology. The project is at the end of its pilot phase, and the first demonstration of the system prototype was held at the International Conference for Computer Communications (ICCC-90), 4-8 November 1990, New Delhi.

Primarily, the system aims at integrating technology information available in various institutions and organisations in the country. It will provide a certain broad level of information on any technology area that a user might want to access. A user can access the TIFACLINE system through normal telephone lines in metro cities, as long as there is a modem connection and terminal at the user's end.

Databases are created at various centres of expertise in the country and TIFACLINE will provide an on-line access platform for these databases.

## The Concept

The TIFACLINE system as envisaged is depicted in Fig. 1.

There are "Host-Hub" machines in the metro cities on which resides the intelligence of the system. Some databases can also reside in the hubs.Then there is the concept of "hosts" which are machines that host databases and are accessible from the host hubs. Connectivity is established through any available network. In the absence of a network, dial-up or leased lines can be used to establish connectivity. The software residing in each host-hub comprises the user interface and software for communication and querying and accessing databases, along with other services. Some dictionaries are also resident on the hubs—these make database query servicing more efficient. The design and development of the software for the TIFACLINE system was started in 1989 and the pilot was scheduled for demo-nstration by October 1990.

The "pilot" phase restricts connectivity to Delhi-Bangalore and is basically to prove the feasibility of the TIFACLINE concept. This was demonstrated at the ICCC-90, with all connectivity established through dial-up lines.

Alongside creating the software for the whole system, a data entry package has also been developed so that information available with various institutes in the country is made available as a database on the machine. For this, the format of information has been fixed by TIFAC in consultation with other organisations, and the data entry package is built around this format. Thus the databases being created are identically structured. Apart from these, there are some databases like the Standard Worldover with the Bureau of Indian Standards and the patents database with National Information Centre which are already existing and supply relevant supplementary information to that available in the TIFACLINE databases on technology. These databases will also be available through TIFACLINE

A database on Indian experts in various area of technology, Expertsbase, is also being created at TIFACLINE.

Though the emphasis is on databases on technology in the Indian context, access to the over 850 databases on EASYNET is also available through TIFACLINE via VSNL gateway.

## Information Content

TIFACLINE will contain information on technology. The initial thrust areas are:

- Ferrous and Non-Ferrous Materials
- Composites

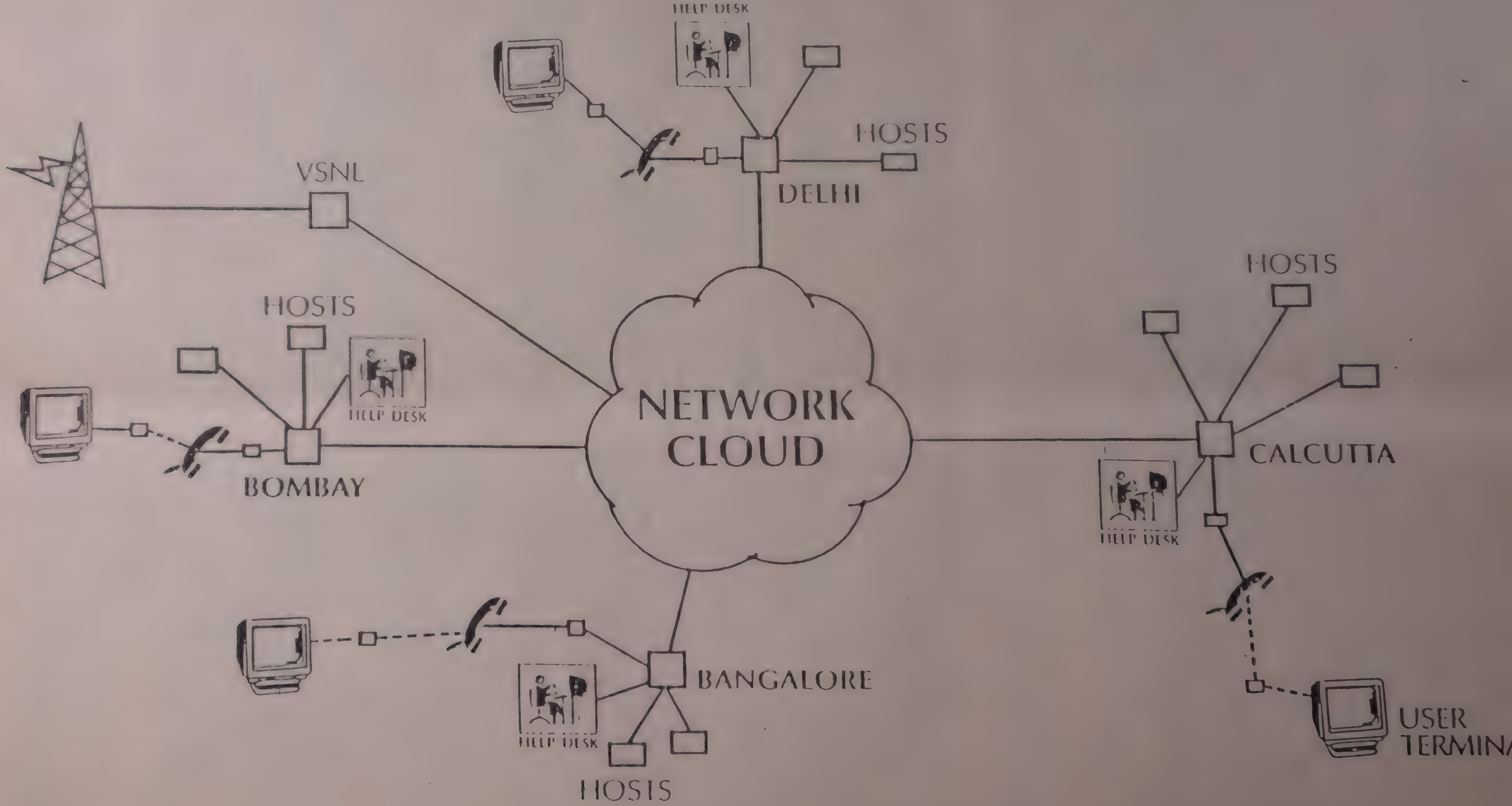

HELP DESK
HOSTS
DELHI
VSNL
HOSTS
HOSTS
HELP DESK
NETWORK CLOUD
CALCUTTA
BOMBAY
HELP DESK
BANGALORE
HELP DESK
HOSTS
USER
TERMINA

Fig. 1 TIFACLINE Network Topology

- Energy
- Manufacturing Technologies
- Electronic Materials
- Food Technology

The information available will cover the following aspects: the status of the project/product, its inputs, outputs, end-products and by-products, market information, equipment & licences required, and address where more detailed information can be obtained from.

The users of the system are envisaged to be decision-makers, whether in government or private sectors, entrepreneurs, consultants, etc. The idea is to provide a central base of information which can be accessed.

**Pilot Project**

The aim of the pilot project is to demonstrate the feasibility of the concept. Some of the major milestones identified for the pilot project were:

- functional demonstration of software for database creation, querying of database (including the user-interface and communication)
- access to at least two supplementary databases
- connectivity between machines through dial-up lines

These milestones have been achieved and demonstrated. The TIFACLINE system is scheduled to be released on an experimental basis for public access by September 1991. A detailed User Manual is in the process of being compiled.

**Implementation**

*Hardware*: For the pilot phase, the hardware platform has been standardised as the 80386 based CPU. This is the lowest platform which supports a multi-user environment through UNIX operating system. The host-hub machines are being upgraded for the system to be ready for public access.

*Software:* To accommodate a multi-user environment, UNIX has been chosen as the operating system. All software development is in C-language. The RDBMS package used is INGRES.

*Networking:* For the pilot, dial-up lines were used with communication established through UUCP. About the middle of 1991, TIFACLINE will be able to ride on INDONET of CMC which is also developing the required interface. As and when any public data network is available in the country TIFACLINE will use it as its carrier.

TIFACLINE is the first system of its kind in the country. It will be opened to users on an experimental basis around September 1991. Database creation is a slow process and it will, therefore, take about one year before substantial data is available in the databases that are being currently created. Meanwhile many others have shown interest in becoming data producers or having their databases accessible through TIFACLINE.

---

**There's No 'Off' Button Here**

We are in a frenzy to acquire information because we believe that more of it means more power. But as the technology of delivering informations, becomes more accessible (photocopiers, computers, fax machines), the possibility that we can process it all becomes more remote. It is as if we are at the tail end of an assembly line that is cranking out data at an alarming rate. And the line has no 'off' button.

— *Richard Saul Wurman*

# UNESCO's Information Activities in India

A. Lahiri
NISSAT, Department of Scientific & Industrial
Research, New Delhi

**This brief report attempts to assess the impact and contribution of ASTINFO/PGI activities in the overall development of library and information services in India.**

To start with, it must be acknowledged that the very concept and design of the National Information System for Science & Technology (NISSAT) is a fall out of the Unesco advisory mission by Dr Peter Lazar way back in 1971. Since the purpose is not historical research, the analysis presented here is based only on the post-1985 events.

The present attempt also keeps in view the following components:

- Benefits accrued to Indian scientists and Institutions through products and services developed and/or delivered by Unesco.
- Contribution of Unesco events organized in India
- Experiences and knowledge gained by Indians through participation in Unesco events organized abroad.

A near-exhaustive list of Unesco events organized in India during the last five years with support from Unesco-ASTINFO is provided at Annexure I.

## Contribution of Unesco-ASTINFO Programme To STI-India

### 1 Catalyzing of national STI programme development

As stated at the outset, Unesco's principal contribution towards STI in India has been the germination and nurturing of the concept of a national information system. Besides the concept and design of the superstructure, Unesco supported activities have strengthened the foundation and other building blocks.

### 2 Diffusion of special products

In this context, the two most significant products are: CDS/ISIS Mini Micro, and CCF: The Common Communication Format.

*CDS/ISIS Mini Micro Version*

A countrywide survey was undertaken in 1985 to assess the status of computer applications in LIS environment. The availability of skills and real-life applications at that time were non-existent. The situation is very much different today. General awareness or benefits of computer use, overall increases in skills, easier availability of hardware-software, and encouragement received from Government in adopting modern tools and techniques, might have given fillip to computer applications in India. However, so far as LIS is concerned, the change is perhaps mainly attributable to the advent of CDS/ISIS package. Now about 1500 trained LIS professionals in about 350 installations use the package for a variety of LIS and non-LIS applications. Quick improvement/revisions of the package at the Unesco end, and aggressive marketing made by the national distributing agency at NISSAT have made it a *de facto* industry standard.

*CCF: The Common Communication Format*

CCF: The Common Communication Format and its implementation complement the capabilities of CDS/ISIS. At present LIS institutions in India do not follow a standard exchange format. However, like CDS/ISIS, CCF has provided a rallying ground. Library networks, under varying stages of implementation, have adopted CCF; while, the new database ventures may use CCF as a working standard. In this context, Unesco's provision of resource persons for a national workshop on CCF — though seemingly a small gesture, has helped us to consolidate diverging viewpoints on the subject.

### 3 Introduction of modern technologies

a) *Online access facilities*

Online access facilities now exist in five regional centers and also at several institutional locations in the country. Perhaps, information needs, at the user end, commercial motives at the service provider's end, and between these two, the changes in Computer Communication scenario in India, would have otherwise led to the establishment of such facilities. While it is difficult in such matters to establish Unesco's initiative in bringing the technology to India, their support for the demonstration of the Online Access to International Databases as early as in 1976 [in Bombay] and during 1987-89 [in Bangalore] ought to be recognized.

b) *New technology of CD-ROM*

CD-ROMs are commonplace today as many institutions in India have CD-ROM reading facilities and have acquired commercially available databases [in CD-ROM Format]. But at the time when the CD-ROM project (with ASFA database) was initiated in the National Institute of Oceanography, the Indian information scientists did not have any exposure at all to this new technology. Therefore, the project had great demonstration value, perhaps even surpassing its information service value.

c) *Computing infrastructure & network development*

The S & T establishments in the country have been fortunate to receive adequate investments so far and there was perhaps no dearth of computing infrastructure in such establishments. Even then, the Unesco's infrastructural support to the Indian National Scientific Documentation Centre (INSDOC) & publications & Information Directorate (PID) New Delhi, did have a nucleating effect. More so in the case of PID, because its role (supported with MINISIS software) as the Regional Node of APINMAP, has helped India consolidate information on medicinal and aromatic plants.

### 4 Introduction of concepts and techniques

Usually the deliberations organized under the Unesco banner have multiplier effects, presumably because

- these are well planned and organized,
- participants are hand-picked for the subject in question and
- seldom there is any dearth of resources for items like course materials.

The chain of fall-out events on modern concepts and techniques of thesaurus construction, marketing of information products and services, information consolidation, numeric and factual data management are discernible in all cases.

### 5 Interaction with other countries

One of the greatest benefits of participation in UNESCO-ASTINFO has been the opportunity that the programme provide to interact with other countries in the region. This has helped to identify common problem areas and to explore solution on cooperative basis, and has thereby provided an ideal testing ground for concepts like the T C D C.

### Conclusion

A national system cannot function effectively without appropriate international linkage. This linkage ought to be both for the flow of information resources and concepts/methodologies/techniques/tools. Realizing this, India had close interactions with the General Information Programme, Unesco and ASTINFO.

Having catalyzed the development of a national information programme, Unesco-ASTINFO has been providing necessary technical and infrastructural support to STI development. Precise quantitative evaluation may not be feasible for "with..." or "without" Unesco support situations. However, it may be stated that the association of India with Unesco's various STI programmes has been, and will always be, highly valued.

### ANNEXURE I — List of Supported Events In India 1985-90

**A. Projects**

1. Augmentation of capacities for computer application through provision of a MICROVAX II system with CDS/ISIS software to INSDOC, New Delhi.
2. Establishment of an on-line access facility to ESA/IRS at NAL Bangalore

through provision of IBM PC, modem, training specialists etc.

3. Establishment of a Regional node of APINMAP at PID New Delhi, through provision of a HP 3000 system with MINISIS package.
4. Preparation of an Inventory of information services on research in progress, INSDOC, New Delhi.
5. National Distributing Agency for CDS/ISIS software package, NISSAT.
6. Preparation of guidelines on the establishment, operation and interlinking of national information systems on research in progress, NISTADS, New Delhi.
7. Pilot project on the repackaging and dissemination of scientific and technological information for development in the field of new and renewable energies particularly biogas generation as model; TERI, New Delhi.
8. Development of a bibliographic information system on Oceanography at NIO, Goa through provision of a micro computer, CD-ROM drive, ASFA database on CD-ROM; training etc.
9. Preparation of a project on chemical reactions database at NCL, Pune, as a part of the international programme on Chemical Information Network (ChIN).
10. Provision of resource persons for the Sub-Regional workshop on marketing of information products and services RECAST, Kathmandu and preparation of a project on establishment of an Industrial Information System in Nepal (NISSAT 1988).
11. Preparation of course materials on marketing of information products and services (NISSAT, 1989-90).

## B. SEMINARS/WORKSHOPS/TRAINING COURSES

1. Workshop on thesaurus construction INSDOC, New Delhi, 18-29, Nov., 1985.
2. Regional seminar on information systems for sub-national planning INCOR, Visakhapatnam. 16-20 Dec., 1985.
3. Regional seminar on handling and dissemination of Oceanographic data and information, NIO, Goa.
4. Workshop on Chemical Information, DRTC, Bangalore 23-27 June, 1986.
5. Workshop on Oceanographic data and information NIO, Goa 1986.
6. South Asian Regional seminar and Workshop on Data storage, retrieval and dissemination in sciences with particular reference to Chemical and Molecular bio-sciences at NICRYS Madras University, Madras 18-23 March, 1988.
7. Advanced training and users group meeting on CDS/ISIS micro version and microvax version, CMTI, Bangalore 8-12 January, 1989.
8. Provision of resource person for the conduct of workshop on Management Information System for Science & Technology at Mara Institute of Technology, Petaling Jaya Malaysia, Sept., 1989.
9. Workshop on marketing of information products and services NISSAT & AGLIS, New Delhi (22 Nov.-1 Dec. 1989).
10. National Workshop on Common Communication Format NISSAT & ILA, New Delhi (19 Feb.-2 March, 1990).

# ISX/CIRC Circulation Program for CDS/ISIS

While CDS/ISIS has general functions for updating, sorting, retrieving and printing records in a bibliographic database, it does not directly support specialized functions of a small library or documentation centre, such as acquisitions, serials control and circulation. Version 2.3 of CDS/ISIS, however, includes an application development language, called CDS/ISIS Pascal, in which programs can be developed to support these kinds of specific functions.

ISX/CIRC is a program written in CDS/ISIS Pascal to automate the loan and return of library materials. This program is one of a series of utility and application programs, that extend the functions of CDS/ISIS. ISX/VERIF, a verification program that validates names, subject descriptors against an external authority file, has been available since November 1989 through the Canadian distributor of CDS/ISIS, AlterNET. Other programs are currently under development.

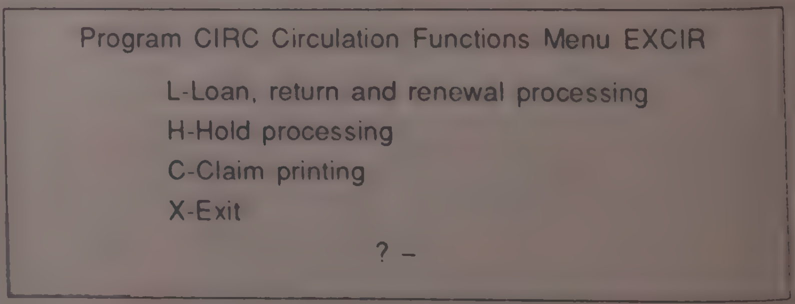
ISX/CIRC is fully compatible with the standard CDS/ISIS functions. Indeed it is run from a modified main CDS/ISIS menu in which a new function, called "Circulation Services", has been added to the familiar CDS/ISIS functions. Selecting the Circulation Services option from this menu brings up another menu in which the main subfunctions of the ISX/CIRC system are displayed: the library staff member using the system is offered the choice of lending, returning or renewing library material; placing or managing holds; or producing recall notices.

The user interaction with the ISX/CIRC program is simple and straightforward. If the loans subfunction is selected, for example, the ISX/CIRC program requests the library staff member to identify the patron requesting the loan. The staff member may type-in a patron number or employee identification number at the keyboard; however, IBM PC compatible barcode reading equipment may also be used to read a barcode on a borrower card. After the input of the borrower number th system displays information about the patron, such as name and address, to confirm that the correct borrower has been selected. ISX/CIRC then requests a unique identification number for the item being borrowed. Again, after the number has been entered either through the keyboard or by reading a barcode on the item, the system displays brief information about the item, and processes the loan. Additional items may be loaned to the same individual patron until the library staff member indicates that all the items for that patron have been processed.

**ISX/CIRC**

- Supports loans, returns, renewals and recalls
- Loans and tracks multiple copies, multiple volumes
- records statistics on use for items and patrons
- processes holds against library material currently on loan
- determines loan periods according to the types of material and category of patron
- allows up to 10 different types of material and 10 categories of patron
- stores all program parameters in message file for easy customization by the user
- uses CDS/ISIS style menus and work sheets
- designed by a librarian for library and records center staff
- comes complete with installation, user and technical documentation
- written in PDS/Pascal for compatibility for future versions
- maintains intact all current CDS/ISIS functions
- all dialogues can be translated into other languages.

*Sample screen displays:*



```
Program CIRC Circulation Functions Menu EXCIR

        L-Loan, return and renewal processing
        H-Hold processing
        C-Claim printing
        X-Exit

                    ? –
```

```
Program CIRC Loans, Returns and Renewals CHARGE
Enter patron id: 1265
Smith, John R.
01590 CS ISD 8641 1989-12-312366263
Enter item id: 9187234
Turbo Pascal 4.0
QA 234.881 B34
```

Loan periods are calculated on the basis of the type of material being loaned and the category of client requesting the loan. Combinations of up to 10 different material types and up to 10 different catagories of user can be associated with different loan periods. Loans can be blocked for certain kinds of materials (for example, reference materials which do not circulate) and the library may specify a maximum number of items on loan to an individual at any one time. These loan parameters are external to the program and can be modified by the library to match local policies.

Returns and renewals function in much the same way as loans, though the system does not need to request the borrower identification, since this information is already known. However the holds function of the ISX/CIRC system operates slightly differently. Holds, placed when a client wants to reserve an item currently out on loan, are not recorded as transactions for an individual item, such as a copy of book, but for the title or volume. If two copies of a book are currently on loan, library staff will be alerted to the pending request when either of the two copies arrives back at the library.

(*Contd. On page 14*)

---

# Dr S.K. Joshi Appointed DGSIR

Dr S.K. Joshi, formerly Director, National Physical Laboratory, New Delhi has been appointed Director General, Council of Scientific & Industrial Research and Secretary, Department, of Scientific and Industrial Research, Govt. of India. He succeeds Dr. A. P. Mitra who had been DG, CSIR since 1986. Dr Joshi brings to this high office many years of experience of teaching and research at universities in India and the U.S. Before taking over as Director NPL in 1986, Dr Joshi served as Head of the Department of Physics, University of Roorkee for about 20 years.

Dr Joshi's areas of specialization are solid state physics and atomic and molecular physics. His current research interests include the study of: electrons and phonons in disordered systems transport and optical properties of disordered alloys; lattice dynamics of transition metals, surface and interface states in semiconductors; spin glasses; material science and science management.

He was awarded the Watumull Memorial Prize(1965) for the best research work done in India during 1964 by the Watumull Foundation, Honolulu, USA; Shanti Swarup Bhatnagar Prize for Physical Sciences (1972); UGC National Lecturership (1973); CSIR Silver Jubilee Award (1973) and Meghnad Saha Award for Research in Theoretical Sciences (1974) by UGC (Hari Om Ashram Trust Award). He was conferred the Presidential Honour, Padma Shri, in 1991.

(Contd. from Page 13)

The recall function of the ISX/CIRC program allows the library to recall items which are more than a specified number of days overdue. This process requires little intervention from the staff member, and normally takes place in the morning or evening when the library is not open to the public. A recall notice is printed for each delinquent borrower, listing all the materials in his or her possession that are currently overdue.

One of the most important areas of automated circulation is the recording of statistics associated with the loan of library materials. ISX/CIRC records the number of loans, recalls and renewals for each library patron as well as for each title in the library, allowing library management to tailor library policies to current and actual patterns of use.

Another critical area of concern for libraries is the security of their loan records in a computerized system. ISX/CIRC supports the logging of each transaction to a device separate from the hard disk containing the main database. This logging does not necessarily require expensive additional equipment. In the simplest and least expensive configuration, a library with even just a printer available can automatically have a oneline record of each transaction printed as the transaction is taking place. In case of a major compute failure, such as a hard disk crash, the previous backup of the database could be restored and the transactions re-entered from the hard copy listing.

ISX/CIRC will not satisfy every library's requirements for an automated circulation system. The nature of the CDS/ISIS system, and the limitations of the CDS/ISIS Pascal programming language mean that it is not practical to use this system to automate libraries with large collections or high volume circulations. However small libraries or documentation centres with existing CDS/ISIS databases and a daily circulation of several hundred items may find ISX/CIRC a useful, practical way to implement automated circulation.

The ISX utilities have been developed by Bibliomatics, Inc. To suggest further utilities that would be useful for CDS/ISIS, contact. Bibliomatics, Inc. 48-200 Owl Drive, Ottawa, Canada KIV 9P7.

The ISX utilities are distributed and supported by AlterNET, the Micro CDS/ISIS distributor in Canada. For more information about these pro-ducts or to order, contact AlterNET Communications Association Inc. P.O. Box 2206, Station D, Ottawa, Canada K1P 5W4.

**Summary of Features**

ISX/VERIF verifies names or terms found in a database against a separate authority file:

- extracts terms from a bibliographic database and looks them up in a separate authority database.
- prints listing of all invalid terms with MFNs of the bibliographic records in which they are found; such listing can be used to correct records in the bibliographic database.
- terms can be personal or corporate names, subject descriptors, subject headings or classification numbers.
- terms are extracted according to user specifications, up to a maximum of 70 characters per term.
- authority database can have different structures (thesaurus, list of terms).

— *ASTINFO Newsletter*, Vol 5, No. 3, 1990

---

Please See Page 20 for an Important Announcement

# Attention CDS/ISI Licensed Users: Micro/CDS/ISIS Ver. 2.32

## DOCUMENTATION CHANGES

Please make the following changes to the English version of the Reference Manual:

***Page 13***

Change the example given for the IBM PC as follows:

| SYSPAR. PAR | JOHN | DAVID |
|---|---|---|
| 1= \isis\prog\ | 4= \isis\johndir\work\ | 4= \isis\davidir\work\ |
| 2= \isis\menu\ | 5= \isis\johndir\data\ | 5= \isis\davidir\data\ |
| 3= \isis\msg\ | 6= BIBLIO | |
| 7= S | | |
| 0= ! password ... | | |

This is because a file cannot have the same name as a subdirectory.

***Page 19***

The first line under para c. should read:

The INSTALL Procedure has five parameters,...

***Page 64 (Figure 19)***

The comment line should read:

Field 4 provides a logical link between record 1 and record 98

***Page 89***

prompt 103/104 shows a Restore option which is actually not displayed on the screen. The option however exists and operates as explained.

***Page 135***

The legend of Figure 42 should read:

Figure 42: System print worksheet EYPRT

***Page 154***

Section 2.C-Load Inverted file

The second sentence of the third paragraph should read:

When the loading is completed CDS/ISIS will display the following messages..

***Page 159***

The second sentence of the third paragraph should read:

Messages 256 and 257 are only issued if option S is executed immediately after option G....

***Pages 176 and 178***

Replace the WARNING on these pages as follows:

*Warning:* Note that all user-created menus and system worksheets must follow the CDS/ISIS naming conventions, i.e. menus must have an 'X' in the second position of the name (e.g. eXabc) and worksheets must have a 'Y' (e.g. eYabc). If you try to edit a menu through the worksheet editor or a worksheet through the menu editor, CDS/ISIS will issue the following message:

Cannot handle this type of file with this menu!

***Page 252***

The text of message 393 is incomplete and should read:

System error. Master file inconsistency check. Restore from last valid backup and re-generate inverted file.

***Page 264***

The following fields should be listed under section B. CONTROL RECORD (after MFTYPE) rather than under section D. CROSSREFERENCE FILE:

RECCNT*

MFCXX1*

MFCXX2*

MFCXX3*

***Page 269***

The description of field IT in section D. FORMAT OF. LOx FILES should read:

IT an integer indicating the type of B*tree (1 for .L01, 2 for .L02)

***Page 231***

In section A. LEADER SEGMENT the field at offset 22 ("For future use") is 2 characters long.

***Page 233***

The text under Section 10. FOR FUTURE USE (2 CHARACTERS) should read.

Contains zeros.

# News and Events

### Quick Access Information System (QAIS)

To provide information regarding scientific activities being carried on in the CSIR national laboratories, especially for use of mass media, a complete database of scientists and their achievement is being created. This consolidated database would form part of the Quick Access Information System (QAIS) being set up at CSIR HQ in New Delhi and its 40-odd laboratories all over India.

The main beneficiaries of the system would be science correspondents and science writers wanting to project R&D achievements of national laboratories and the scientists working in them.

### SENDOC Abstracting and Indexing Training Programme

The Small Enterprises National Documentation Centre (SENDOC) located at NISIET in Hyderabad is organizing a short-term training programme on Abstracting and Indexing during July 8-19, 1991.

The objectives of the programme are:

i) To provide practice to the participants in the application of abstracting and indexing methods, use of vocabularies in indexing, constructing of an indexing language (thesaurus) for their information systems;

ii) To prepare participants to plan and organise an in house abstracting and indexing service suitable to their clientele.

iii) To give an overview of information technology applications in information storage and retrieval.

Participation fee for the course is Rs 3000 per participant.

For further details contact Ms K. Subhashini, Course Director, NISIET, Yousufguda, Hyderabad-500045.

### Health Information for All—MLAI Convention

The Medical Library Association of India (MLAI) is organizing its fourth national convention on "Health Information for All (HIFA: Appraisal and projection to 2000 AD and beyond" during 3-5 Oct., 1991 at B.J. Medical College, Ahmedabad.

The registration fees are as follows: MLAI members Rs 300; Non-members Rs 150; accompanying persons Rs 250. The last date for registration is **30 June 1991.** Abstract of papers for presentation **30 June 1991.** Full papers accepted 16 Aug 1991.

Correspondence may be addressed to Ms Avani Shah, Organizing Secretary, National Convention, MLAI C/o Central Library, B.J. Medical College, Ahmedabad.

### International ISKO Conference

The Second International ISKO conference on 'Cognitive Paradigms in Knowledge Organisation' is planned from 26 to 28 August 1992 in Madras. The conference is organised by the Madras Library Association, Sarada Ranganathan Endowment for Library Science, and the University of Madras and is part of the centenary celebrations commemorating Dr. S.R. Ranganathan's contributions to library and information science, and in particular to studies on the structure and organisation of knowledge to improve the performance of information systems. Further details from S.N Kumar, Conference Secretariat, 5 Sivaganga Road, Madras-600034.

### India MEDLARS Centre: Training Courses

The Centre conducts several training courses for the benefit of doctors, librarians and information scientists.

Some forthcoming programmes are:

A.4.0 Fundamentals of MEDLARS Searching. Duration 5 days. Dates: 24-28 June and 7-11 October 1991.

A.4.1. CDS/ISIS—Basic Course for librarians and information personnel: 5 days, 23-27 Sept 1991.

A.4.2. CDS/ISIS Advanced Course : 10 days 5-16 August 1991 and 11-22 November 1991.

For further Information contact Indian MEDLARS Centre, ICMR-NIC Centre, CGO Complex, Lodi Road, New Delhi-110 003.

### Link-up with INDONET Network

For link up with CMC's INDONET network you will require an IBM compatible PC/XT with RS-232 interface and using MS-DOS operating system. Terminal emulation and file transfer software would be supplied by CMC. A multitech Modem Model 212E (1200 baud) or 224E ( 2400 baud) for dialup or dedicated connectivity would serve as the communication equipment.

Details about accessing C&D database on INDONET can be obtained by contacting the nearest CMC office.

### ABI's Large Volume Storage and Retrieval

ABI Books (P) Ltd., New Delhi announce having developed the technical infrastucture for desktop large information archival and retrieval sub system with facility for storage, search retrieval and dissemination of large volume (100-600 MB) of information (text/numeric/graphic/image) on a single optical disc. For further information contact Director, ABI Books (P) Ltd, G-76, Kalkaji, New Delhi-110 019.

### New ACCIS Directory Published

ACCIS has just published the Directory of selected collections of United Nations system publications. The directory, compiled on the basis of information gathered from 39 United Nations Organizations, is aimed at assisting users in locating collections of United Nations system publications at the country level.

Information about libraries and documentation centres included in the directory was derived from the Database of United Nations Databases and Information Services (DUNDIS), maintained in the ACCIS Secretariat.

For each of 170 countries and areas listed, the user may find: libraries and documentation centres within the United Nations system; select libraries and other information services which maintain depository collections of United Nations system publications; and United Nations Information Centres/Services.

The 126-page directory is priced at USD25, and is available from United Nations Sales Sections in Geneva and New York.

### Rural Community Information Services: Guidelines

Recent years have seen a growing awareness of the importance of information services that meet the needs of rural communities in developing countries. This prompted the IFLA Section of Public Libraries to convene a small Working Group which met at the 1987 IFLA Conference in Brighton. The group recommended that a project should be set up to promote and assist the development of such community information services. The first stage of the project was a literature review, to establish the state of the art and provide guidelines on the development of rural community information services.

*Rural community information services: guidelines for researching need, setting up services and evaluating performance,* by Elaine Kempson, is a paper summarizing the guidelines under three main headings: 1) analyzing community needs; 2) establishing appropriate services; and 3) monitoring and evaluating performance. It is published in IFLA journal 16 (1990), No. 4 p. 420.

### ACCESS, a Small Friendly Tool

ACCESS is a new user-friendly interface fully compatible with minimicro CDS/ISIS version 2.3.

It has been developed at the Asian Institute of Technology in Bangkok to enable untrained users to retrieve information easily in a CDS/ISIS database.

For further information, please contact, the Director, Library and Regional Documentation Center (LRDC), Asian Institute of Technology, G.P.O. Box 2754, Bangkok 10501(Thailand).

### Malaysia Workshop on CDS/ISIS

An Advanced Workshop on Problem Solving of CDS/ISIS Software was organized by the National Library of Malaysia, ASTINFO Co-ordinating Unit, with the co-operation of Unesco/PGI Regional Office in Bangkok and the National Institute of Public Administration (INTAN) in Petaling Jayam Malaysia, from 2 to 5 October 1990. Sixteen participants from Malaysian, Universities and Research Institutes attended the meeting. Mr Giampaolo del Bigio from Unesco/Paris acted as resource person

The points stressed by Mr del Bigio were the customization and full utilization of the capacity of the micro CDS/ISIS version 2.3, such as instalment of micro CDS/ISIS, formatting languages, sorting and printing, importing/exporting of databases, editing system menus/worksheets. He also demonstrated some ISIS/Pascal applications which provide user-friendly interface. He moreover demonstrated the master file recovering programme.

Participants could also exercise some new features of the latest CDS/ISIS version.

### Manual for Bibliographic Info System

The International Development Research Centre has published a set of guidelines for creating and maintaining a bibliographic information system using microcomputers. The manual contains a database design using the mini-micro CDS/ISIS as the example software. The main section is a field-by-field guide, with rules for the selection and entry of data in the proposed record structure. Two diskettes containing the mini-micro CDS/ISIS and INMAGIC record structures and supporting files, as well as a sample database, are included.

The manual is priced at CDN 18. For further information, contact: IDRC, P.O. Box 8500, OTTAWA (Canada KIG 3H9).

### Access to Scientific Literature in Developing Countries

UNESCO, through its General Information Programme, is already involved in activities for the improvement of scientific document delivery.

As an answer to the problem of access to scientific information in the developing countries, a programme to promote access to scientific literature is being designed and implemented by UNESCO. The programme is a compound of several convergent actions and methods such as:

- co-ordination of book donation programmes;
- development of library networking and resource sharing;
- use of new technologies such as CD-ROM and telefax for document delivery purposes;
- improving the management of document delivery services.

The UNESCO programme will be further developed during the coming five years.

### Information for Planning and Decision-Making

A Meeting of Experts on Information for Planning and Decision-Making was held, under Unesco auspices, at the Institute of Scientific and Technical Information (ISTIC) in

Beijing, from 10 to 14 December 1990, with the support and co-operation of the Government of the People's Republic of China.

The initiative of convening this meeting was taken by PGI within the framework of its efforts, begun during the mid '80s, to promote the use of specialized information systems and services in providing information and data needed by planners and decision-makers in their professional work, with particular reference to the needs of the developing countries.

There were 12 participants at the meeting, coming from all five Unesco regions, 8 observers from international and national organizations, 10 observers from the host country and a PGI staff member.

Their task was to review the field of information for planning and decision-making at national and international levels, to identify critical problems and to make suggestions to the Director-General of Unesco with respect to feasible actions which Unesco might initiate during the period 1991 to 1995.

Presentations were made by the participants on several aspects of the problem of informations in development planning and decision-making and the issues raised were examined in terms of key topics: problems of data integrity, the functions which information systems should perform in the planning process, questions of organization, technology and infrastructure, and that of software design and availability.

The recommendations stress the need for further national and international efforts through closer co-operation among concerned specialists and institutions in developing and developed countries. In particular, it is recommended that Unesco continue to work closely with other related international programmes, such as those of the United Nations University and the United Nations Centre for Regional Development, in various fields of action including education and training, networking, promoting awareness and recognition of information systems, research, pilot projects and standardization, and endogenous software development.

### Studying X.400

The ACCIS Technical Panel on the UN Telecommunications Network (TP/NET) is considering the X.400 MHS (Message Handling System) for use as an electronic mail gateway. The X.400 standard is a gateway that converts internal E-mail systems for external communications, and *vice versa*.

Meeting from 27-28 March 1991 in Geneva, TP/NET decided to create a subgroup to study the application of X.400 for the UN telecommunications network. The group's conclusions will be reported to ACCIS when it meets in September 1991. The resulting plan should include implementation in 1992 and a pilot project, to be conducted as soon as possible.

### Epi Info

Epi Info is a series of microcomputer programs produced at the Center for Disease Control, Atlanta, Georgia, USA and the World Health Organisation (WHO), Geneva, Switzerland, for handling epidemiological data in questionnaire format and for organizing study designs and results into text that may form part of written reports.

A questionnaire can be set up and processed in a few minutes, but Epi Info can also form the basis of a powerful disease surveillance system database with many files and record types. It incorporates the features of statistical and database software packages most used by epidemiologists into a single system that may be freely copied.

Version 5 of Epi Info requires a PC-compatible microcomputer running PC-DOS or MS-DOS (Version 2.0 or higher) with 512kb of RAM and at least one floppy disk drive. Epi Info is not copyrighted and the producers, CDC and WHO, permit and encourage copying for further distribution. Version 5 costs USD35. The manual is available for USD20, diskettes alone for USD15, and the manual on diskette fo USD15.

### Patents Classification on CD-ROM

The World Intellectual Property Organization (WIPO) plans to publish a synoptical version of its *International Patent Classification (IPC)* on CD-ROM, in co-operation with the German Patent Office and the Spanish Industrial Property Office.

The proposed CD-ROM would contain the English and French versions of IPC editions three to five, the fourth and fifth edition of the IPC in German and the fifth edition of the IPC in Spanish, merged and presented synoptically.

In addition, the disc would contain merged versions of official catchword indexes in the various languages. Finally, concordance data relating to IPC editions three to five (giving information on how subject matter has been transferred between various places as a result of the revision of the different editions), as well as data on the validity of IPC symbols that have been used in the past or that appear in the fifth edition, would be included.

Intended for industrial property offices and other users such as patent agencies and libraries, the product will enable the user to search in the various IPC editions, to consult the other IPC material included (simple access to files is provided while working with the IPC text) and to switch at will between the four languages.

### UN Books in Print

Preparation of an ACCIS directory of United Nations system books in print is due to start in May 1991. This directory would give Member States and UN organizations access to up-to-date, accurate bibliographic and ordering information for published books available for purchase within the United Nations system. The directory will be published in 1992.

### Access to Scientific Literature

A programme to promote access to scientific literature in developing countries is being carried out by the United Nations Educational, Scientific and Cultural Organization (Unesco).

The programme will use new technologies such as CD-ROM and telefax for document delivery, and promote the improvement of the management of document delivery services. It will also establish a database on book and journal donation programmes, which will be available to information centres in developing countries.

**UN System Database of Social Statistics**

Tabled for discussion at the February, 1991 session of the UN Statistical Commission was a progress report on the development of a co-ordinated UN system database for selected social statistics and indicators of common interest at national and international levels. The database is intended to help monitor social goats in the 1990s, as discussed by the Commission's Working Group at its last session.

The progress report described the concept of an international database on social statistics, reviewed common requirements for social statistics—both nationally and internationally—as well as looking at current arrangements for compilation and co-ordination in light of technical possibilities. It also considered the series and classifications to be included. The report also described plans for technical co-operation with developing countries to establish and maintain databases used to monitor progress in achieving social goals in the 1990s.

The Report of the Secretary-General on progress made in the development of a co-ordinated database for the United Nations system for selected social statistics and indicators of common interest and the development of related national databases carries the document number E/CN.3.1991/20 and is available from the Documents Control Section, S-1552 United Nations, New York.

**Mysore City Libraries Consortium**

A consortium of major academic and R & D libraries has been formed recently in the city of Mysore. Among the major objectives are the following:

- to pool together all library resources and other infrastructural facilities and make them available for the best utilisation of the information and related resources in the city.
- to organise programmes for continuing education for practising professionals.

Mysore City Libraries Consortium has already initiated steps to bring out a local database in the area of Science, Social Science and Humanities journals available with all its present member institutions. It has approached central government organisations like Department of Science and Technology to take up important information projects, workshops, etc. with appropriate financial assistance.

Further information available from the convener, Mysore City Libraries Consortium, C/o University Library, Manasagangotri, Mysore-570 006.

**Database on Library & Information Science**

IASLIC has successfully initiated the project on building up a bibliographic database on Indian Library & Information Science Literature, with the support of NISSAT. The data for 1987, comprising 396 records has been transferred to machine-readable form. A by-product of the database, ILSA for 1987 has now come out in new attractive format, and includes an intensive PRECIS index. Updating and retrospective conversion of ILSA records is also contemplated.

**NICAC Publishes Superconductor Abstracts and Documentation List**

The National Information Centre on Advanced Ceramics (NICAC) has started publishing the *Superconductor Abstracts* and the *Documentation list of Glass* and *Ceramics*. These publications cover the current bibliographical information on glass, ceramics, refractory, enamel, composite, high-Tc. ceramic superconductors and allied materials.

The abstracts are arranged in alphabetical order by authors' name. Entries are serially numbered. There is an alphabetical subject index referring to the text by the serial number.

For inquiries : Shri G.C. Basak, Editor, NICAC, CGCRI, 196 Raja S.C. Mallick Road, Calcutta-700 032.

**Drug Abuse Research Information**

Dr R P Kumar, Librarian, AIIMS, New Delhi attended the 12th annual SALIS conference held in Toronto, Canada last October. He presented a paper on Flow of Drug Abuse Research Information in India : Trends and Prospects.

**Prof. P B Mangla**

Prof. P B Mangla, Head of the Department of Library and Information Science has been awarded the Shiromani Award for Human Excellence by the Shiromani Institute, New Delhi for his valuable contributions in the field of library and information science. Currently, Prof Mangla is also a Vice-President of the International Federation of Library Associations and Institutions (IFLA).

# IMPORTANT

## NISSAT Newsletter : Mailing List Revalidation

In order to update our mailing list we ask you to fill in the form below and return it by **19 Augt. 1991.**

To ensure the most efficient use of our resources, **we wish to remove from the mailing list those who do not reply. Please note this is the Final Call.** So those in default must Hurry.

We would also like to know what you think of the *Newsletter.* Those who have already replied need not write again.

Please mail the form to : Dr. A. Lahiri, Jt. Adviser, NISSAT (DSIR), Technology Bhawan,
New Delhi 110 016

**Cut here**

**Institution/Library/Name:**

**Address:**

**Your Comments:**

**Cut here**

**Cut here**

**Cut here**

R.N.-34608/78
RNI New Delhi

Laser Typeset by ADR Enterprises, Saket, New Delhi-110017
Printed at: Natraj Printers, 80F, Kamla Nagar, Delhi-110007

24 OCT 1991
C.F.T.R.I. MYSORE

ISSN 0970 – 0188
July-Sept.-1991

# 91/

# NISSAT

## NEWSLETTE

rly Organ of National Information
System for Science & Technology
Department of Scientific &
Industrial Research, New Delhi.

NISSAT

NEWSLETTER

Vol. 10 No. 3 July-September 1991

**Editorial Committee**

Dr. A. Lahiri
Jt. Adviser (NISSAT)
Department of Scientific & Industrial Research
New Delhi-110016

(Smt) S. Ravindran
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri B.G. Sunder Singh
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri S. Nagarajan, President
Society for Information Science
c/o PID, New Delhi-110012.

Shri P.C. Bose, Secretary,
Society for Information Science
c/o ARIC, New Delhi-110012.

Shri R.N. Sharma
Society for Information Science
c/o PID, New Delhi-110012.

**Editor: Ram D. Taneja**

**Editorial Office:** S-371, Greater Kailash-I,
New Delhi-110048.

© 1991 DSIR, New Delhi.

Published by the Society for Information Science on behalf of National Information System for Science & Technology (NISSAT),
DSIR, Government of India,
Technology Bhawan,
New Delhi-110016.

**NISSAT Newsletter**, published quarterly, is the official organ of NISSAT, and is aimed at disseminating information concerning programmes, activities and achievements of NISSAT as also of the various centres functioning under it. Additionally, it attempts to project major developments in the field of information science at national and international levels.

Communications concerning the Newsletter may be addressed to Dr. A. Lahiri, Jt. Adviser (NISSAT), Department of Scientific & Industrial Research, Government of India, Technology Bhawan, New Mehrauli Road, New Delhi-110016. Material published in the Newsletter can be reproduced with due acknowledgement to the source.

**Cover Design: N.N. Sethi, Associated Artists, New Delhi-110001.**

# Facing the Deluge — I

We have noted earlier that while development of information technology has been making rapid strides, its applications have not kept pace. More difficult would be to enhance the level of man's ability to use and assimilate information. The problem has not come to the fore so prominently as to attract adequate attention from information handlers. But apparently, the squeeze is already being felt by senior scientists, bureaucrats and managers. Senior scientists, for example, spend much of their time in routine administration, liaison with potential sponsors, advising government, travel and so on, apart from technical activities like doing and guiding research, interaction with fellow scientists, teaching, attending seminars etc. Where do they have time for serious reading? No wonder that they are very rarely seen in libraries browsing through literature. Similarly, business executives and bureaucrats are usually tied down with their daily office activities and public relations which do not leave much scope for systematic information gathering and consumption. And the spell of time available for their personal life is too short to be encroached upon.

Presently, a combination of conventional and hi-tech methodologies is utilized to aid the process of hunting for information. For example, research students carry out literature search and information consolidation for their seniors. For this, technologies like on-line are increasingly being used.

The question is how long is this going to continue? Modern technology may help only in performing the search quicker and with precision. But in any case the literature identified would have to be studied! Where is the time for even browsing? True, the interests are getting narrower. However, the rate of increase in the volume of material in narrow subject areas may also be difficult to cope with. Moreover, senior functionaries cannot do well if they dwell only on subjects of their immediate interest. Delving into peripheral areas may mean inviting a deluge of information.

Modern technology has come up with something like pre-recorded educational audio or video cassettes. These are used predominantly by business executives to fill the spare time available during travel and the like. But, these are no substitutes for serious reading that a scientist is expected to do. Review articles, information analysis and consolidation reports are of some help. What then is the solution? Are we approaching the limit to information consumption?

— A. Lahiri

NISSAT

NEWSLETTER

Vol. 10 No. 3 July-Sept. 1991

## CONTENTS

Facing the Deluge — I 1

*SANJAY* : Augmented CDS/ISIS Package for Library Automation 3

MAITRAYEE: Library Computerisation & Networking Software 7

Calcutta Library Network (CALIBNET) Software : New Delhi Exposition A Curtain Raiser 10

LIS Manpower Needs in India: An Assessment 16

Impact of Informatics — Mala Seminar 18

Conference on Informetrics Heralds Dr S.R. Ranganathan Centenary Year 20

Worldnet Dialogue on CD-ROM Technology 21

News and Events 22

# *SANJAY*: AUGMENTED CDS/ISIS PACKAGE FOR LIBRARY AUTOMATION

**DESIDOC Software Team, DESIDOC, Delhi**

**A library automation package based on CDS/ISIS (Version 2.3), named SANJAY, has been developed by DESIDOC. SANJAY enhances the capabilities of CDS/ISIS by interfacing some pascal programs. The package is capable of inter-linking two or more databases for a single application, handling numerical calculations and of carrying out some other library house-keeping activities. It has been implemented in the Technology Bhavan Library as a model application. A generalised version of SANJAY is also expected to be ready shortly for application in any library with a medium size collection and users.**

Micro ISIS is a member of the ISIS (Integrated Set of Information Systems) family designed to store and retrieve structured variable length textual information. ISIS was first developed by the International Labour Office in 1964 to run on a mainframe computer (IBM 360). In late seventies it was rewritten by UNESCO to become CDS/ISIS. By 1986, UNESCO had issued an ISIS version for use on microcomputers (IBMPC) or compatible with 512 KB RAM and a hard disk. There is also a version for the VAX/VMS Series.

The minimum hardware requirements for running CDS/ISIS are :

IBM-PC/XT/AT or compatible equipment
512 KB RAM memory (640 KB recommended)
1 Floppy disk unit
1 Hard disk
1 Monochrome or colour screen
1 Printer

This package is distributed free of charge by UNESCO to various not-for-profit organisations in various developing countries through their designated focal points or national distributing agencies for promoting computerisation of activities and services in libraries and information centres. In India, the package is distributed by the National Information System for Science & Technology (NISSAT). About 500 libraries and/or information centres have so far received it. To promote the package, NISSAT has conducted or supported a number of short-term training programmes. Initially UNESCO released the CDS/ISIS version 1.0 in 1986. But to help the user libraries in getting over the deficiencies or drawbacks of the package as experienced by the users, UNESCO initiated efforts for further improvement in the package and after a couple of revisions UNESCO released the improved version 2.3 in 1989. Since Micro CDS/ISIS has become very popular in various countries. UNESCO is taking a keen interest in its further improvement for the benefit of the users.

In CDS/ISIS (version 2.3), some of the deficiencies of the version 1.0 reported by the users have been removed and also some more facilities like size of database, integration of all the program modules, a pascal interface facility for interfacing pascal programs for desired additional applications like library house-keeping operations, searching capability, printing facilities, minor calculations, etc. have been added.

Being the distributing agency in India, NISSAT decided to implement Micro CDS/ISIS in a library that would serve as a model user and on some practical considerations, chose the Technology Bhavan Library, (Ministry of Science & Technology, Government of India) for this purpose. Further, NISSAT requested the Defence Scientific Information & Documentation Centre (DESIDOC), Delhi to develop an integrated library automation package based on the CDS/ISIS covering the additional functions mentioned. DESIDOC was requested to implement the package in the Technology Bhavan Library as a testing ground and also make it a model user.

## Development of Software Package

Since MICRO CDS/ISIS is basically a tool for an information storage and retrieval, it is not capable of handling many library management activities like acquisition, circulation, financial control, etc. in an integrated manner. Therefore DESIDOC's software team took up the developmental work and came out with an integrated package that interfaces about 25 PASCAL programs with Micro CDS/ISIS. These programs have been written in CDS/ISIS pascal. Some new menus have also been provided with a menu-driven facility for handling additional jobs. To make the software more user-friendly, a number of predefined display formats, print worksheets, sort worksheets have been provided for generating different types of reports.

**Special Features**

SANJAY as an augmented package can handle the following operations :

- Numerical operations like date specification and budget control and acquisition, circulation and other such functions.
- Inter-linking two or more databases for a single application like *Books* and *Members* for the circulation system.

Presently SANJAY is capable of handling all types of library management activities in addition to information storage and retrieval.

**Automation of Technology Bhavan Library**

The Library is extensively used by about 700 users which includes officials of the Ministry of Science & Technology right from the Secretary of the Department down to the assistants and a good number of institutions, societies and other autonomous bodies supported by the Ministry.The library has five library professionals.

It has about *13000* current publications and receives about *500* current periodicals. The library has two PC/AT (80 MB hard disc) and one PC/XTs (20 MB hard disc each). The following operations have been computerised :

- Acquisition
- Circulation
- Catalogue generation and maintenance
- Current awareness services (CAS)
- Directory of forthcoming seminars/symposia
- Newspaper clipping service

*System Design*—The following databases were created and inter-linked to carry out circulation, acquisition and cataloguing :

— *Books database*
Contains bibliographic details of documents received in the Library

— *Members database*
Contains details of the members of the Library.

— *Acquisition database*
Contains the relevant details of publications to be procured along with the details of indentors, the vendor codes, etc.

— *Vendors database*
Contains particulars of the vendors approved by the library for supply of publications.

— *Budget database*
Contains budget allocations and other related information, year-wise.

For Circulation, Books and Members databases are inter-connected whereas for acquisition all the databases mentioned-above are inter-connected.

To make the system more user-friendly, the following additional menus have been designed :

— Circulation menu
— Book query menu
— Member query menu
— Acquisition menu
— Vendor query menu

**System Features**

*System modules*— For the purpose of data security and to provide selective access, the whole system has been divided into two separate modules, namely, the *Maintenance Module* and the *User Module*. The facility of passwords has been provided which further enhances security of the data.

*Maintenance module*—The access rights to this module have been restricted to the limited set of users who are authorised by the Database Administrator. This module accommodates the following activities.

24 OCT 1991
C.F.T.R.I., MYSORE

- Entry of new data
- Modification in the existing data
- Updation/creation of the inverted files
- Backup of the databases at regular intervals
- Change of the existing formats
- Insertion of the new formats, etc.

Entry to this module is controlled through a password.

*User Module*—This module provides the following categories of services to help the library staff carry out daily routines and assist the library users :

(a) Circulation Control

The following facilities are provided :

- Book issue/return/reservation
- Online query search on 'Books' database on fields like title, author, publisher, class number, accession number, keywords, corporate body, etc.
- Printing of reminders for publications due for return
- Printing of loan-cards
- Printing of 'No Due Certificates'
- Printing of notices to members for Books reserved.

(b) Acquisition Control

The following facilisities are provided :

- Data entry at the following stages
    - Indentor's request
    - Decision of the Book Selection Committee
    - Receipt of the publication
- Updation of 'vendor/budget' databases
- Online query on 'Books' database for status of the indented books
- Online query on 'Books' database for checking duplications before placing order.
- Online query search on 'Vendor' database by vendor name and vendor code.
- Search for overdue supplies by [illegible]
- Printing of the following reports
    - Supply orders
    - Reminders for overdue supplies
    - List of indented books
    - List of disapproved items
    - List of items approved
    - List of books received

(c) Online Catalogue

This provides the following facilities :

- Online query on a number of fields like-author, keywords, ISBN, accession number and combination of any of these fields by Boolean operators.
- Printing of the following reports
    - Accession list
    - Subject index
    - Author index
    - Catalogue card as per AACR-2
- Online help to the user of the system.

**System Implementation**

*System implementation strategy*—Additional menus have been designed to make the system user-friendly. Each option of the menus is either provided by CDS/ISIS package itself or has been developed using Pascal interface programs which work on the databases to produce desired results. For example, the Information Retrieval Services module of CDS/ISIS is used for accessing the online catalogue. For online help separate programs have been written in Pascal providing for Toggle switching among databases. The Pascal programs cover the acquisition and circulation activities. The system installation scheme is given in Fig.1.

Data conversion of the holdings of the library was partially contracted to an outside agency while some of the work was earlier carried out by the software team and the library staff. Data entry covering the current acquisitions is done by the library staff on a regular basis.

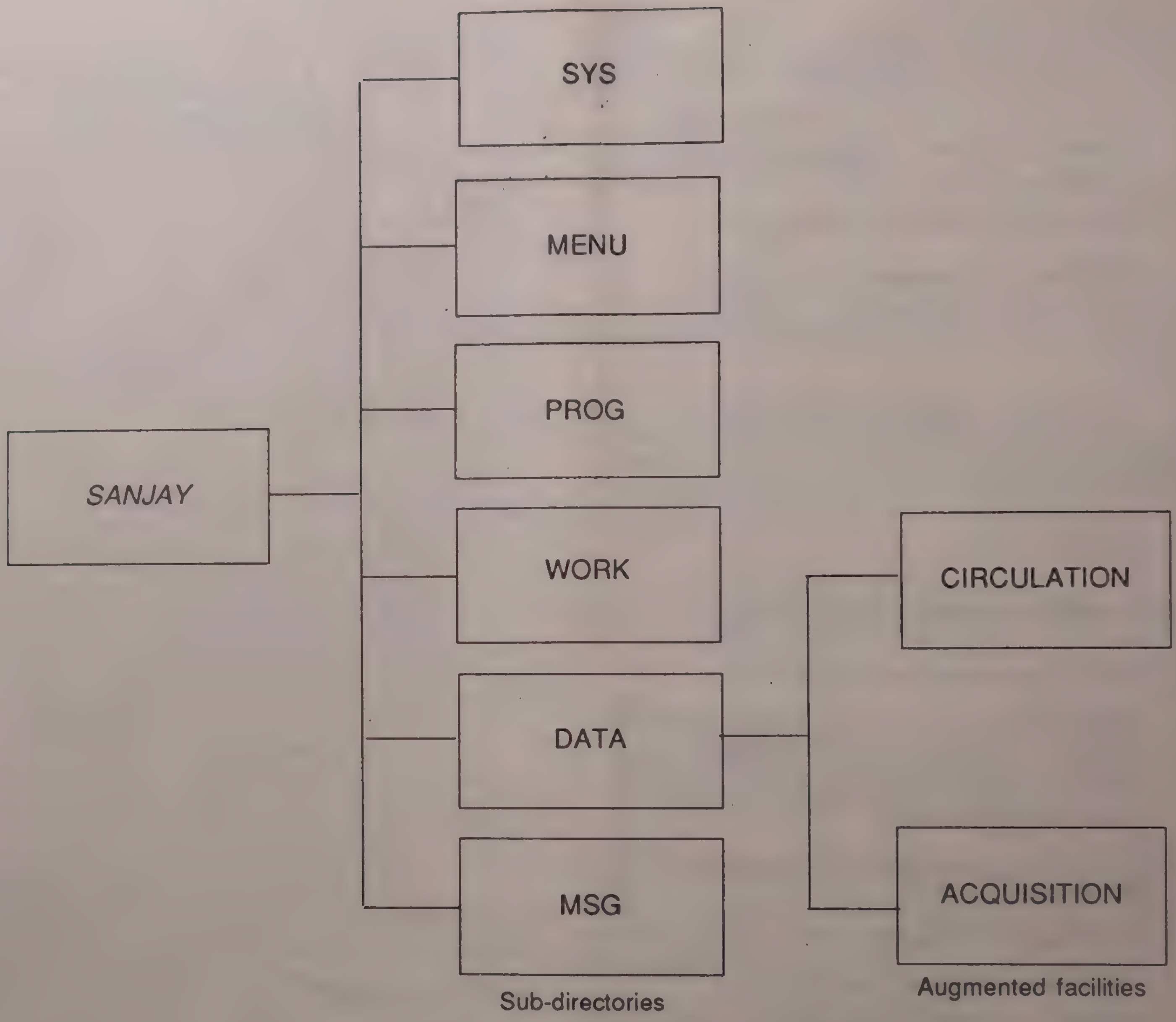

SYS
MENU
PROG
SANJAY
WORK
DATA
MSG
CIRCULATION
ACQUISITION
Sub-directories
Augmented facilities

**Fig. 1 System Installation Scheme**

## Conclusion

The augmented package described above has so far been implemented in the Technology Bhavan Library for acquisition of books, circulation and use/maintenance of online catalogue. Serials acquisition (and control) is under development and is expected to be completed in a couple of months. A general purpose version of this augmented package for use in other libraries, is expected to be ready in a few months and will soon be made available by NISSAT.

## Acknowledgement

The NISSAT project was executed by the DESIDOC Software Team consisting of Dr. S.S. Murthy, J.K. Bhargava, R.K. Srivastava, Sonia Relan, Vinod Kumari and Kamini Sharma.

B.G. Sunder Singh (NISSAT), and Chander Parkash and N.P. Rawale (Library), interfaced with the DESIDOC Team. A broadbased Steering Committee provided guidance at various stages of the project.

# *MAITRAYEE* LIBRARY COMPUTERISATION & NETWORKING SOFTWARE

P. Tagore, Kunal Ghosh, Bipradas Basak, Tapas Banerjee, Subhomoy Dey, Rina Dutta Sen and Debasish Ghosh

CMC Ltd. Calcutta

Library Computerisation is an age old concept. At present a number of good packages are available abroad as well as in India. Computer networking is also a well established field. However, in India, both these fields are still in a developing phase. MAITRAYEE, the software package, is an attempt to bring both these aspects on an integrated platform. It is a complete solution towards library computerisation and brings the participating libraries into a network of its own kind. Commissioned by NISSAT, CMC Ltd. did the complete feasibility study and came out with a well defined functional specification. Finally, it was designed, coded, implemented and packaged to deliver one of the most sophisticated packages to make the concept a reality.

### The Philosophy Behind MAITRAYEE

- Library Computerisation
- Resource Sharing
- Standardisation
- Connectivity
- Modularity

At present MAITRAYEE has been implemented in several libraries in Calcutta (CALIBNET project). The network is shown in Fig. 1.

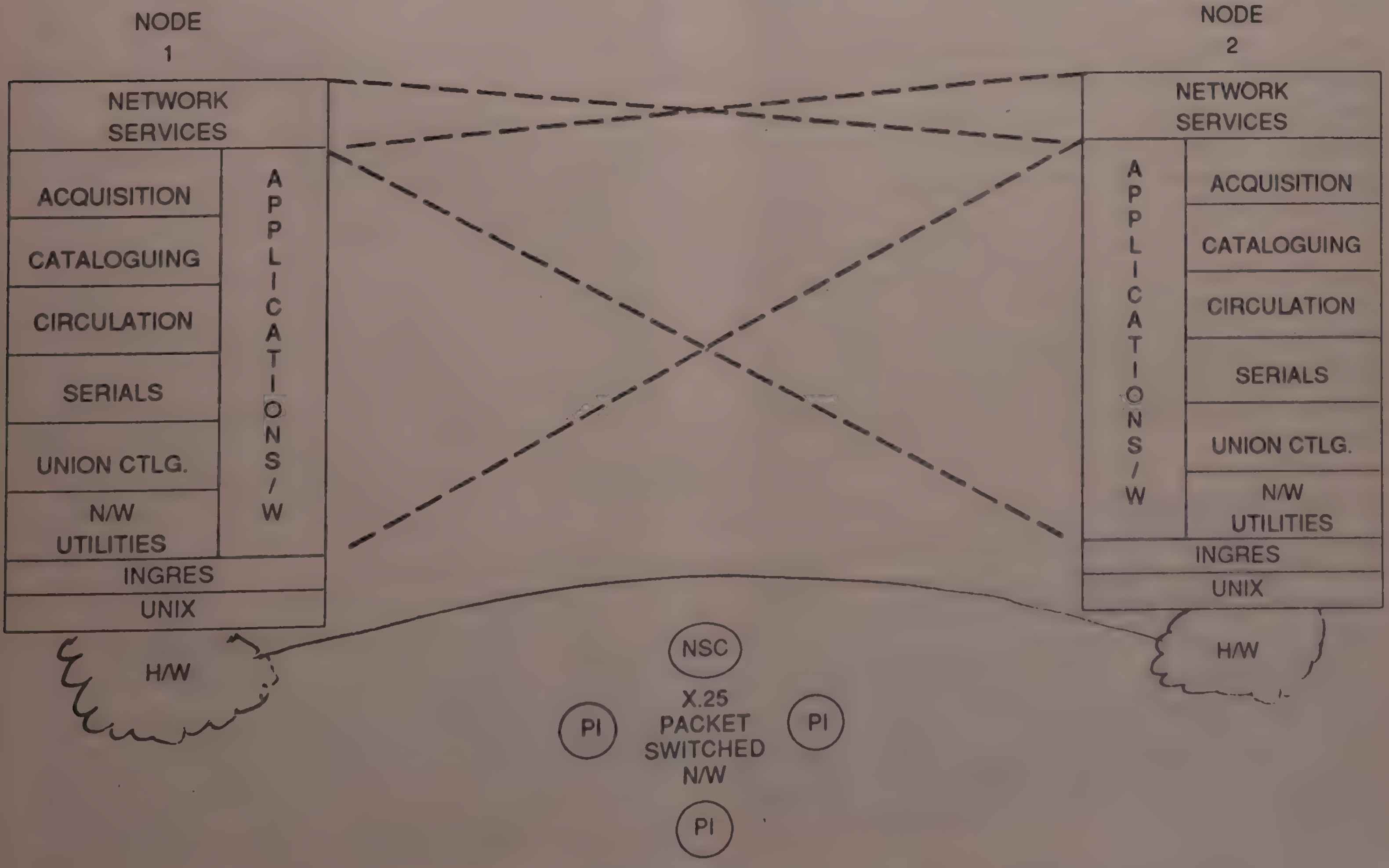

NODE 1
NETWORK SERVICES
ACQUISITION
CATALOGUING
CIRCULATION
SERIALS
UNION CTLG.
N/W UTILITIES
APPLICATIONS S/W
INGRES
UNIX
H/W
NODE 2
NETWORK SERVICES
APPLICATIONS S/W
ACQUISITION
CATALOGUING
CIRCULATION
SERIALS
UNION CTLG.
N/W UTILITIES
INGRES
UNIX
H/W
NSC
X.25 PACKET SWITCHED N/W
PI
PI
PI

**Fig.1 CALIBNET Package Architecture**

This paper discusses the design, approach and the functionality of the software. Since the product is open-ended, several areas are discussed which can be incorporated for a smooth enhancement.

## The DBMS Backbone

A typical software development is time bounded, tagged with a number of "must" attributes. Usually these are 'modularity', 'portability' 'maintainability' 'security' 'OLTP features', 'distributed features', 'standards conformity', 'parallelism' and so on. Developing everything from scrap will be a massive time consuming project. CMC's concept was to use the state-of-the-art technology and to adopt internationally accepted environment. Without discussing the merits of application development on DBMS at length the following key features may be noted :

- portability
- maintainability
- security
- flexibility
- recovery features
- varied tuning capability, etc.

In modern implementation of DBMS, a lot of added flexibility is available on the top of well established standard features. These are mainly screen management flexibility, OLTP features, distributed database support, extensive graphics, rich data definitions, cost based optimisation, storage organisation handling, application development tool, network protocol suite, etc.

So development on a DBMS backbone opens the area for whole hearted enrichment of application software functionality with a total control over the system from a high level. INGRES has been chosen as DBMS platform on which all the database related activities are developed.

## Network Backbone

Networking protocol has been chosen keeping in mind international standards and the capacity to support multivendor hardware. CCITT recommended X.25 protocol has been chosen for connecting the computers (DTE) to switches. For session and transport layers, Department of Defence USA (DOD) standard TCP/IP protocol has been chosen. TCP/IP is mapped to X.25 interfaces, using SNDCP protocol. Over X.25 there exists array of Transport Library Interfaces (TLI) and Socket Library Interfaces (SLI). In addition to these the BERKELEY r-series utilities for file transfer, login are also available. Standard TCP/IP applications like FTP, TELNET and SMTP are available to interconnect heterogeneous systems. The protocol has the flexibility of migrating to ISO-OSI by changing interface patterns of SNDCP interface. Since the protocol uses international standard which is widely used, it is possible to connect various popular networks like TELENET and TYMENT through international gateway.

## Application Software

### *Acquisitions & Fund Accounting Sub-System*

This module automates the various processes related to the purchase and procurement of library materials. The various processes include accepting requests for item procurement, accepting list of items available with vendors and allowing users to select from them, getting approvals and sanctions from proper authorities, formation of purchase lists, receiving items against order and under other schemes, maintaining information on publishers and suppliers. The system generates the accession number for the items received and also passes on the item information collected in the request and ordering stages, to the Cataloguing module. It also generates a number of lists and reports for systematic management of the acquisition and fund accounting operations of the library. The module is designed to configure some ad hoc situations like purchased items accessioning by library individuals, non-ordered (gift etc). On-line duplicate checking uses statistical phonetic algorithms and reports the duplicate details. The system has the unique facility for on-line accessioning from ISO 2709 tapes with UNIMARC content designators. The system is parameterised to customize the local needs of a particular library.

### *Cataloguing Sub-System*

The cataloguing subsystem is designed to catalogue items entered in the system on-line (through acquisition) or through retrospective/off line data entry. The system is designed to support both AACR2-level 3 access points and selection of content designators of UNIMARC. The generalised screen interface support repeating fields (any level) as referenced in UNIMARC manual. The detailed query takes care of browsing mode apart from standard screen mode which puts the unit card with AACR2 punctuation on screen. Catalogue cards can be directly prepared using full text formatting flexibility and user selectable print fonts.

Integrated to cataloguing, the data exchange module supports multi-media import/export through UNIMARC. This can also be selected for CCF.

A support, UNIX/DOS based, off-line data entry package is also available which supports full UNIMARC data entry (through input forms) using automatic screen generators. Multi-item, multi-format selectors are allowed to support a generalized hierarchy tree for full UNIMARC operation.

*Circulation Sub-System*

Circulation is integrated with item holding which are generated from on-line and retrospective entry. This subsystem performs all the front-desk operations which include registration of members issue, return, reservation and on-line integration of various details on several entities which result from query service. Since the software works over the network, all the user related services are also available over the network with their full capacity. This area includes OPAC (Online Public Access Catalogue) and ILL (Inter Library Loan). As the circulation is the on-line process all standard OLTP features are built-in. This sub-system also keeps track of several decision support information items which are usually available in the form of reports. The reservation module is designed to support priority-wise multipopulation queues and hence provides a generalised reservation management.

*User Search Services*

Extensive user search services (all available over network) are provided by MAITRAYEE. These include :

- OPAC search [inverted file search on attributes integrated with descriptor search]
- Keyword/Descriptor search [search with term selection through thesaurus navigation]
- SDI search.

The thesaurus module supports the independent thesaurus data entry which can be linked with any item as required. At pesent boolean search (any level) is provided with AND, OR and NOT logic. Memory based step search technique is employed to provide a balanced response time. All the search facilities are designed to support set association.

The output of the query can be redirected to a file. This is useful specially for large query over the network is concerned.

*Serials Control Sub-System*

Serials control is a comprehensive sub-system which supports :

- Acquisition process
- Pre monitoring controls
- Registration
- SDI data population
- Bindery.

The acquisition process supports new serials, renewal gift, exchange items. It takes care of all ordering activities like approval, sanction, payment etc. and billing procedures include supplementary bills and credit notes. Reminder generation with staggered intervals are also supported. Serials master information is prepared with bibliographic and subscription detail. This enables one to track the title history more reliably. Pre-monitoring control prepares the monitoring pattern taking into account the publication schedule, index, supplementary, clubbed issues and reminder patterns.

Registration module is like the front desk operation which registers both ordered and non-ordered serials e.g., gift exchange (through dual pattern). This also controls stray issues, duplicate registration and reminders.

Finally a complete volume (multi-copy) is passed on to bindery control for binding.

*Central Host & Networking Services*

*Network Services :*

a) Document Transfer to remote

b) Remote database access

c) Electronic mail

(*Contd. on page 15*)

# CALCUTTA LIBRARY NETWORK (CALIBNET) SOFTWARE : NEW DELHI EXPOSITION A CURTAIN RAISER

A demonstration-cum-exposition of CALIBNET software for Calcutta Library Network was jointly organized in New Delhi (July 18-19, 1991) by NISSAT and DELNET (Computerised network of Delhi libraries).

Like Delnet which was launched on 19 March, 1991, the Calibnet Project is a bold experiment that ventures to set up networking before library computerisation. The programme, attended by over 100 library and information professionals of all hues mostly from Delhi and Calcutta, served as a curtain raiser on Calibnet activities. The project which has 38 participating institutions mainly in the field of science and technology had its beginnings five years ago.

As in the case of Delnet, the feasibility study on Computer networking and automation in Calcutta was undertaken by CMC Ltd. Together with Calibnet Coordination Committee and hardware and software experts, a user friendly software christened MAITRAYEE has been developed. The New Delhi Conference was devoted to an exposition and demonstration of the Calibnet software package and provided a broad peep into its possibilities and potentialities.

### Introductory Session

The Convener of Delnet, Shri H K Kaul, Librarian, India International Centre, New Delhi, in his introductory remarks referred to the severe contraints of institutional libraries in the country which made sharing a necessity for them through networking and automation. Within a span of three years, Delhi libraries had created databases comprising 300,000 bibliographical records with the help of AACR II and CCF Format using CDS/ISIS and other software packages. DELNET had also trained 55 librarians in the use of CDS/ISIS. A consultative committee was formed for rationalisation of periodicals subscription in Delhi libraries. Forex worth Rs 18 lakh was saved with

Shri A.C. Mitra, Calibnet Coordinator, made the first presentation

Shri Kunal Ghosh (CMC Calcutta) introduced the software package mutual adjustment. The Zero phase of DELNET (e-Mail) had been launched last March. NISSAT has extended technical support by providing modern and the necessary software for e-Mail service. In the Zero-phase out of 10 libraries, 5-6 libraries have already been hooked on to e-Mail and the others would soon follow suit.

**Session I**

Shri B.G. Sunder Singh (NISSAT), while extending a warm welcome to the participants, requested Dr S.S. Murthy, Director DESIDOC, to Chair Session I.

At this session, Shri A.C. Mitra, Calibnet Coordinator, made an impressive presentation on Calibnet, a multi-agency effort which began in 1986 with 38 participating institutions, mainly in the field of S&T, Shri Mitra said. Implementation of Phase I had already been undertaken with 8 participating institutions for computerisation and networking. He spoke of CMC efforts to develop the Calibnet software package.

Shri Ashok Mukhopadhyay, Calibnet Standardization Committee and Coordination Committee introduced the software package which, he said, was a bold venture responsible for introducing Computer culture in Indian libraries where networking had preceeded computerisation unlike libraries abroad

The software holds 8000 code lines and is very user friendly. Standardization and systematization of house keeping activities were the main tasks achieved in this package.

The package has adopted Unimarc format and for cataloguing it has adopted AACR II level 3. The package is a decision support system and also supports statistical manipulations, Data can be easily analysed and has a capability of technical decision making by way of supporting

A section of the participants. In the front row at right is seen the CMC Calibnet Team thesaurus, authority code, etc. It has a capability of exploiting other information technology products like CD-ROM, e-Mail, OCR extension, Bar-Code and COM.

Shri Mukhopadhyay said that the software had been developed on INGRES RDBMS and could be upgraded with new features based on ISO 2709 for internal structure and networking support.

Shri Kunal Ghosh of CMC Ltd. then introduced the software package to the house. He demonstrated the actual network cluster of Calibnet participating institutions. He said that libraries in Calcutta had already begun their computerization activity with different hardware, prior to developing the software.

The Calibnet software package is based on INGRES Ver. 5.0/6.2 RDBMS supported by Unix 3.2 compatible operating system with standard utilities like "C" "Lex" and "Yacc". The Communication software uses TCP/IP with X.25 protocol for networking. It had features of adopting standard utilities, like FTP, TELNET, SMTP and R-series.

The functions of the application software package introduced are :

1) Acquisition—where item acquisition and budgetary monitoring of serial and non-serial material are possible;

2) Cataloguing—based on Unimarc format for on-line and retrospective cataloguing. It has a feature of data import and export;

3) Circulation—having membership record; charging/discharging feature; reservation of documents is possible and has the facility for on-line search based on keywords, thesaurus and OPAC;

4) Serial control—having subscription control, its maintaining and binding capabilities;

5) Union Catalogue management of serial and non-serial documents; and

6) Networking services—Remote PI's access is possible with File transfer and e-Mail facilities.

A demonstration of various modules of the package then followed by the CMC team. These included acquisition module, cataloguing module, and on-line public access` catalogue (OPAC).

**Session II**

The software demonstration was resumed in the afternoon session which was presided over by Shri Ram D.Taneja Editor, NISSAT, Newsletter.

The modules demonstrated at this session were keywords Module (which is complementary to OPAC and SDI modules), circulation module (which generates membership cards automatically and integrates into one screen issue, return and renewal), serial control module and networking service module (which can access remote databases, file transfer, e-Mail and can generate various reports).

Ms Uma Majumdar (National Library, Calcutta) presented her paper on Handling of local languages materials on Calibnet software package. The Centre for Advanced Computing, Pune (C-DAC) had developed GIST- 900 card to be supplied with non-roman script software. The software developed is in ASC II Code with standardized ISO format which had been duly standardized by DoE. All the diacritics of GIST-900 have been standardized by Bureau of Indian Standards.

Ms Majumdar said that CMC should make efforts to instal GIST Technology in Calibnet software.

The Chairman concluded session with a summary of the proceedings.

**Panel Discussion**

Participants in the Panel discussion were Prof. T. Viswanathan, Shri S.M. Dhawan, Shri R.K. Srivastava, Shri Amit Chattopadhyay and Shri P. Tagore. Dr Y.S. Rajan, acting as the Chairman briefed the panelists on the scope of their discussion which included network and referral services, requirements of hardware and software for initial creation of databases, upgradation of hardware and software and future lines of software development activity of CMC Ltd.

Initiating the discussion, Prof. Viswanathan, talked of network and referral services. During 1950s and 1960s, Prof. Viswanathan said, the library profession was flying in high colour but for the last two decades the activities had declined. The present decade, however, has given considerable momentum to services to the community through use of information technology products.

Prof. Viswanathan's main emphasis was on the attitudinal change in favour of using new methods and services. He said that it was very easy to have communication channels but providing constant services through these channels needs to be looked into. Users should be trained to use the new service products and here the network plays an important role. In this direction he emphasised that operational and management aspects of the network service centres were most important, because most of the nodes fail to provide cost-benefit services.

The Professor touched upon another area of services through external databases. Copyright is one of the most important issues; security and transfer of information are other issues in accessing external databases. He suggested that that cost of accessing external databases is enormous and this should be inbuilt whenever a research project is conceived.

The creation of databases should be a job of a cottage industry and some major agency should collect all the databases and create a major database.

Shri Dhawan's main emphasis was on the referral services. He suggested special projects to create databases for referral services. This may be for statistical information, economic information, reviews on specific topics, etc. All these should be hooked with the network services.

He touched upon the manpower and material requirements to create these databases. He warned that there may or may not be support from the management in creating the infrastructure, without a library, for automation, but the librarians should survive through attitudinal change.

Shri Chattopadhyay concentrated on the scope and requirements of hardware and software and accessing external databases. He said that it is very difficult to convince the management for the upgradation of the hardware or software because it is a very expensive proposition. He suggested adoption of other alternative methods to minimise the cost factor. His main emphasis was on the manual search in place of computer search subject to the time constraint.

Shri Srivastava also touched upon the problems in system upgradation. He said that accessing the external database should be divided into two areas. One importing the Library of Congress tapes for retrospective conversion and second accessing the external databases through networking.

Shri Tagore's observations were mainly directed on the future of Calibnet software. The main problem which was faced in the development of Calibnet software was to keep the software at par with international standard in libraries and the standardization on networking. There was a need to draw a line between the vastness of information science and Calibnet software contents. It was pointed that Calibnet software requires enchancement and CMC is very keen to go ahead, especialy conversion of records from Unimarc to CCF, improvement in networking service, use of multiple technological products like CD-ROM, microfilms, etc.

Shri Rajan invited a brief discussion on the comments of the panelists. Shri B.D. Gupta of BIS commented on the need for attitudinal change required from the information supplier i.e., libraries with the users of the information products. He said that information products should be marketed like soap operas. Extensive training should be given to information users and sooner or later we should stop supplying the secondary print products, like bibliographies, etc.

Dr. Lahiri commented on the Calibnet software as a novel experience and said that a beginning has been made. The enhancement of software will be a continuing activity towards Indian alternatives to international software. It was stated that version one had been frozen and shall not be leased out free of cost.

Shri Promod Kumar, (Inflibnet) commented on the development of computer culture and said that much advancement is required in networking area.

The Chairman, Shri Rajan, then summarised the discussion as follows :

1. Information products should be commercialized like soap operas;

2. Attitudinal change with market approach is most important;

3. Knowledge based attitudinal change is required;
4. Information services should not be merely inventory control but should be service oriented;
5. Information supplier should encourage database search and services;
6. It is possible to change the attitude of the management, only when we provide faster and responsive services to the users;
7. Upgradation of systems hardware and software should not be too expensive and should be compared with services;
8. For networking, 24-hour reliable telephone lines are required and the libraries should also plan for 24-hour networking services;
9. Shri S. Majumdar (IIPA) acted as the Rapporteur for the proceedings. The deliberations cancluded with a vote of thanks proposed by Smt. S. Ravindran on behalf of NISSAT.

S. Majumdar
Ram D. Taneja

# INFOTEK + NIPM

## WORKSHOP ON USE OF PERSONAL COMPUTERS AND CDS/ISIS IN LIBRARY & INFORMATION ENVIRONMENT

Organised by

INSTITUTION OF INFORMATION TECHNOLOGY (INFOTEK)

Co-Sponsored by

NATIONAL INSTITUTE OF PORT MANAGEMENT (NIPM)

DSIR-NISSAT, NEW DELHI

The Institution of Information Technology (INFOTEK) in co-operation with the National Institute of Port Management (NIPM), Madras is organising a workshop on the above topic during 7–12 Oct. 91 at Madras.

The subject for the workshop has been carefully chosen in view of the fact that many libraries wanted to computerise some of their activities such as catalogue, periodical holdings, user directory, etc. in slow and steady manner. Even though some big libraries have gone one step ahead in computerisation, there are many small and medium size libraries yet to start computerisation of their activities. Hence this workshop is planned to give basic training in system analysis, and design and structure of database using CDS/ISIS.

CDS/ISIS (Computerised Documentation Services/Integrated Set of Information Systems) is one of the versatile software packages for use in the library and information environment. It has been developed and distributed free of cost by UNESCO. Several versions have come up, the latest being V2.32 which can handle 16 million records.

*PARTICIPANTS*—The Librarians, Information Scientists/Managers, Library School Students/Teachers, and any others who involved in creation and maintenance of non-numerical textual databases may participate in this workshop. Prior exposure to PCs, MS-DOS and CDS/ISIS may be of added value to understand more in training. The participants will be drawn "first-come-first-serve" basis and will be limited to 15 persons.

*REGISTRATION FEE*—The registration fee for the workshop is Rs 1,500/- to cover the cost of working document, computer use, and daily lunch and tea for the duration of the workshop.

*DATE AND VENUE*—The workshop will be held at the National Institute of Port Management (NIPM), East Coast Road, Utthandi, Madras 600096 from 7–12 October 1991. On request hostel facilities will be arranged at NIPM.

*TRAINING AND PRACTICALS*—Training in the form of class-room lectures and practicals on computers will be given during the workshop. The following are some of the topics chosen for presentations, practicals and demonstrations.

Personal Computers, Library automation, CDS/ISIS and its advanced features, creation of databases using computer and information technology.

( Contd. from page 9)

These services can be used for sending queries regarding bibliographic details, user profile list for SDI services, request for inter-library loans etc. to remote PIs.

*Central Host Services:*

a) Queries on Union Catalogue

b) Updation of Union Catalogue

This module provides very user-friendly. menu-driven screen to perform networking and central host services. Networking services allow to make queries to any of the remote libraries, transfer documents, messages, replies to queries to any of the networked libraries.

Central Host services allow on-line access to union catalogue, which will serve various queries to the user. Thus the network service centre will serve all the queries of the union catalogue in a centralised manner and these results will migrate to node which has requested for the query through the networking services. Comprehensive updation facilities are also provided to each of the networked libraries, where each of the nodes will send their updates to the network service centre. From here, the collated updates will be sent to INSDOC, Delhi for global updation of union catalogue.

## Future Enhancements

MAITRAYEE is an open-ended software package. Its design is typically such that the enhancement (both in hardware and software) can be adapted quite easily. The software itself can be directly used as a MARC communication software. With a little modification CCF, UNIMARC content designators can be incorporated. The package itself is designed for UNIMARC. So the communication from one formation to the other is possible. At present, the thesaurus only supports broader, narrower terms and synonyms. The facility can be enhanced for related terms. The authority control structure has been already implemented. The centralised control can be developed easily. Apart from this, decentralised and replicated approach can also be thought of. In version 1.0, the development was limited upto SDI, where article name is searched against profile. The abstract service can be provided as an application on full text retrieval system. The system can be enhanced to support local language. The distributed feature can also be incorporated for interlocation automatic query. Several hardware enhancements e.g. incorporating Bar Code reader, OCR, Color Workstations, LAN-WAN gateways etc. are also possible.

There is practically no limit for enhancements which can be incorporated depending on the suitability.

## Conclusion

In India both the library computerisation and networking are not matured enough. MAITRAYEE is a joint venture of NISSAT and CMC in transforming the concepts into reality. The software is yet to be implemented on several libraries (which are not there in CALIBNET Phase 1) to make the system and network operational. The package is to be viewed for what it contains and not what it packs. It is just a beginning as what it contains", not "what". It is beginning. A lot of enhancements are envisaged to put MAITRAYEE on a very strong footing in the field of library and information science.

## Acknowledgement

The authors are grateful for the continuous technical advice and guidance received from the members of the CALIBNET Committee on Standardization and scientists of the INSDOC, Calcutta Regional Centre, Calcutta.

## References

1. UNIMARC Manual—IFLA 1987.
2. Handbook for AACR2—M. F. Maxwell.
3. CCF—UNESCO 1988.
4. Exchanging Bibliographic Data, Gredley & Hopkinson.

# LIS MANPOWER NEEDS IN INDIA: AN ASSESSMENT

The National Information System for Science and Technology (NISSAT) has always recognised the importance of human resource development for proper planning and operation of information systems in the country, It therefore sponsored recently a project for assessment of library and information manpower needs in India. The survey was undertaken jointly by Burdwan University and the Indian Association of Special Libraries and Information Centres (IASLIC). The final survey report has been presented in two volumes.

The model recommended in the 'Guidelines for conducting information manpower survey' (Unesco, 1986) was used for the survey. The study aimed at

- assessing the current position and to forecast future levels of supply and demand of manpower, so as to ensure that plans are formulated on the basis of accurate information and
- reviewing the present training programme in preparing personnel for the tasks projected and to identify measures to alleviate current and future manpower problems.

The Survey had only a limited response and a partial success, but as a maiden effort, it does provide useful preliminary data on manpower supply and demand. The findings of the survey reveal that there are many aspects of library and information workforce that need attention to remedy the situation. The relatively higher rate of vacancies, 1160 out of a total of 10072 library posts or 11.5% for the sample, and a low rate of staff turnover and mobility (3.4%), showing a disconcerting state of stagnation, call for urgent steps to promote a healthier career development for the library and information professionals. This alone will help remove widespread frustration and attract better qualified persons to the profession. This approach is also necessary to motivate the professionals to adopt technology and innovative methods in information work.

For the responding sample (1396 libraries), employing 4683 professional and 5389 non-professional staff, the actual training and recruitment need during the next 12 months is for 905 professionals and 609 non-professionals equivalent to 19.3% and 11.3% respectively. For the projected five-year requirement, the training and recruitment need is for 1813 professional staff and 1117 non-professionals, i.e. 39% and 21% respectively. The training and recruitment need varies from state to state and sector to sector.

**Table 1: Recruitment and Training Need for Library & Information Personnel**
**(No of respondents 1396)**

| Term | Supply | | Demand | | Recruitment & Training Need | |
|---|---|---|---|---|---|---|
| | Prof. | Non-Prof. | Prof. | Non-Prof. | Prof. | Non-Prof. |
| Next 12 months | 4564 | 5315 | 5469 | 5924 | 905<br>(19.3%) | 609<br>(11.3%) |
| Next 5 years | 4088 | 5019 | 5901 | 6136 | 1813<br>(39.0%) | 1117<br>(21.0%) |

---

*Survey of Library & Information Manpower Needs in India/ S.N Banerjee and S K Kapoor, 2 volumes. Volume 1: The Report; Volume 2: The Statistical Supplement, NISSAT, DSIR,1991.

No estimate could be made of the total number of library units in the country and hence no projection of manpower need could be possible. However, for the special libraries sector, including university libraries and the National Library, where an overall estimate of the number of existing library units is feasible, the projection of manpower need could be attempted. There are roughly 300 special library units in the country and for these we can expect recruitment and training need of around 10,000 professional staff during the next 5 years.

The study collected data not only on the quantitative aspects of supply and demand, but also on the qualitative consideration of the workforce in dynamic information environment, seeking the opinion of the respondents on various facets of library development. The output of trained personnel was also assessed through a set of questionnaires administered to library schools. The response from these was also partial; 29 institutions imparting graduate training and 3 institutions undergraduate qualifications responded. The output is summarised in Table 2. The average output is 36 per institution. Therefore, an anticipated 2700 qualified personnel join the workforce each year from the existing 75 graduate library schools. Besides, there is an unspecified number of persons qualifying from the open universities, correspondence courses, professional bodies, etc. The steadily growing output of trained manpower would thus appear to meet adequately the current future demand, but the quality of training needs immediate upgradation to prepare the professionals for increasingly technology-driven information systems and services. This aspect needs to be tackled at two levels—training and specialisation of teaching faculty in information technology and other emerging areas; and updating training courses together with providing necessary resources and facilities, such as computer, media aids, library materials, etc. to the library schools. Accreditation of library and information courses needs to be introduced urgently.

**Table 2: Output from Training Institutions**

| | BLIS (28 Schools) | | MLIS (23 Schools) | | Total Output |
|---|---|---|---|---|---|
| | Input | Output | Input | Output | |
| Last 5 years | 4235 | 3248 | 834 | 667 | 3915 |
| Next 5 years | 4947 | 3800 | 1325 | 1060 | 4860 |
| Average output (Annual) per school. | | | | | 36 |
| Projected output (annual) for 75 schools | | | | | 2700 |

As recommended in the Unesco guidelines, such studies need to be conducted at regular intervals for more reliable data, and establishing definite trends in manpower supply and demand. A Roster of library and information personnel with regular updates may be established at a suitable national organisation, to provide official source of reliable data on a continuing basis. A national coordination body must be entrusted with the responsibility of examining and monitoring all aspects of manpower development in the country. This body should also promote the establishment of a continuing process of consultation between those responsible for developing the library and information services, and those responsible for the training Institutions.

# IMPACT OF INFORMATICS — MALA SEMINAR

A one-day seminar on 'Trends in and Impact of Informatics' in Madras was inaugurated by Dr M.S. Swaminathan on 23 August, 1991.

Despite the advent of modern technology and recent establishment of various information networks, large sections of the population have had no access to information relevant to their day to day needs. While potential users of information are often unable to specify their information needs, the motivation to study such needs and the commitment for repackaging information into usable products is lacking. The problems are compounded by the general absence, of a disciplined work culture and environment. But already there are signs of greater preoccupation with the technology rather than the benefits which it can bring. The aim of the seminar was to provide an opportunity for information professionals to interact with leaders in various disciplines, create greater awareness of the socio-cultural impact of informatics, and bring into sharper focus the emerging role of the information, professional as a vital link in the process of development.

## Keynote Address

Dr MS Swaminathan in his keynote address mentioned that the advances in different technologies such as telecommunications and computers had shrunk the world making it a global village. One of the problems which the Centre for Research on Sustainable Agricultural & Rural Development had taken up was setting up model information villages to find out what results could be achieved by exploiting the available natural, human and financial resources with the help of advances in modern information technology. The invention of CD ROM technology meant that the 600,000 abstracts comprising research done over several years had been put by the CABI (Commonwealth Agricultural Bureau International) on two discs. He felt that as a product of the human mind information could bind the world together.

SEMINAR ON
TRENDS IN AND IMPACT OF INFORMATICS
MADRAS 23 AUGUST '91
...ed by

**Prof. K.S. Raghavan speaking at the inauguration. Seated at the dais are (l. ro r.) Dr. Suseela Kumar, President MALA and Dr. M.S. Swaminathan**

In the morning session chaired by Prof. A. Neelameghan, Maj Gen Balasubramaniam spoke on the Trends in and Impact of informatics on organisations; Prof. SV Raghavan covered IT and its impact on education and training; Dr Arjun Rajagopalan discussed Informatics and health care services.

Prof. S. Parthasarathy chaired the afternoon session at which Prof. T. Viswanathan gave a brief summary of the Role of IT in information services and Prof. Neelameghan dealt with IT and the education of the information professionals in developing countries. Prof. FW Lancaster's paper on 'Has technology failed us' raised several questions about the current and potential uses of IT.

## Oxygen of Information

Dr Sarvepalli Gopal in his valedictory address highlighted the integrating power of informatics. In fields such as education, dissemination of information to rural areas and in business and industry, informatics had a great deal to offer. A democracy survives on the "Oxygen of Information".

Each presentation was followed by discussion, and Dr. MA Gopinath, Rapporteur General of the seminar, ably supported by Messrs P. Sankaralingam of the University of Madras and Ms Chitra Hariharan of CSIR gave a short summary at the end of the valedictory session.

The seminar was co-sponsored by the Department of Library and Information Science, University of Madras and the Institute of Information Studies, Madras. Over fifty delegates attended the seminar which also marked the begining of the Dr SR Ranganathan Centenary Celebrations.

**A section of the audience, Front row (l. to r.) Prof. F.W. Lancaster, Dr. Sarveppalli Gopal, Prof. T. Viswanathan and Dr. M.S. Swaminathan**

## Current Trends in IT : Impact on Information Science in India
## XI SIS Convention NCL, Pune
## Jan. 20-22,1992

The Society for Information Science will hold its XI Convention and Conference during Jan. 20-22, 1992 at NCL Campus, Pune. The theme for the Covention is: Current Trends in Information Techno-logy and its Impact on Information Science in India.

Topics for the six technical sessions scheduled are : 1) Database creation, components required, uniformity of formats, cost involved; 2) User requirements, services offered, impact of DTP technology, price structure; 3) Data on-line or off-line, telecom. operations involved, fee charged; 4) Networking of national services, problems and prospects; 5) Marketing strategies, publicity of products offered, restructuring services to meet demands; 6) Recommendations.

Registration of delegates is open. The fee for society members is Rs 500 and for non-members Rs 600. The last date for registration is 31 Oct. 1991. For details on submission of papers and other particulars contact the Secretary, Society for Information Science C/o PID, Hillside Road, New Delhi-110 012.

# CONFERENCE ON INFORMETRICS HERALDS DR S. R. RANGANATHAN CENTENARY YEAR

The Docuementation Research & Training Centre organized the third International Conference on Informetrics in Bangalore during 9-12 August 1991. Coinciding with the conference is the Birth Centenary Year of the doyen of library science, Dr. S.R. Ranganathan. Cosponsors of the conference were INSDOC, ICSSR and NISSAT, New Delhi and the Sarada Ranganathan Endowment for Library Science, Bangalore. Over 100 delegates from 13 countries participated in the Conference.

The Organizing Secretary of the Conference, Dr I.K. Ravichandra Rao in his opening remarks at the inaugural session traced the history of the International Conference on Bibliometrics which was held for the first time in 1987 in Belgium through the efforts of Dr Leo Egghe. The Second Conference took place in Ontario (Canada) in 1989 with Ms Jean Tague-Sutcliff playing the key role. The New Delhi Conference, the third in the series, hails the birth Centenary year of Dr S.R. Ranganathan during which several academic and intellectual events like lectures and seminars were scheduled.

Dr. M.A Gopinath dwelt on the outstanding contributrions of Dr. Ranganathan to Librometry while Prof. A. Neelameghan, who chaired the session went on to illustrate how quantification had found eloquent manifestation in the canons and laws propounded by Dr. Ranganathan. Ms Jean Tague-Suitcliff paid rich tributes to B C Brookes, whose sad demise had made the profession so much poorer. Delivering the keynote address Prof. A. Bookstein dealt with the informetric regularities associated with such names as Lotha, Bradford and Zipf. The session ended with a vote of thanks proposed by Prof. G. Bhattacharyya.

**Technical Sessions**

Of the seven technical sessions, three were devoted to theory of informetrics, wherein 13 papers were presented. The papers dwelt on various models, theoretical foundation of Bradford's law, significance of zero-item and single item sources, growth & obsolescence of literature, scientific productivity of authors, recall-precision relationship in information retrieval, journal self citations, multiple attribute tree as an index structure for large bibliographic files, multi dimensional approach for picking out core journals, and use of impact factor as a valid measure for evaluating the performance of scientific papers. The sessions were chaired by Dr Leo Egghe, Dr Michael E. D. Koenig and Prof. T. Viswanathan.

Two sessions were devoted to scientometrics, at which eight papers were presented. The papers discussed factors that affect productivity, Pielou's axion and N-dependent concentration, mapping matrices for subject-object coordinated field recognition and representation, relationship of social stratification in co-authorship network, laser research in middle level countries, use of meta analysis for citation studies, comparison of on-line detabases relating to delimitation of a medical research topic. Mr. M. J. Nelson and Ms Susan Bonzi chaired the sessions.

The last two sessions were devoted to bibliometric studies. Six papers presented in here dealt with medical literature generated from Mexico in 1980s, bibliometric scenario of China, authorship productivity in geoscience literature of Nigeria, literature on linguistics and computerised library and information services, and chaos in computer mediated communication. The sessions were chaired by Ms H. Krestschmer and Dr. I. K. Ravichandra Rao.

**Panel Discussion**

The panel discussion centred on the pros and cons of bibliometric analysis and evoked lively discussion. The panelists were Prof. F W Lancaster, Ms Susan Banzi, Mr S. Parthasarathy, Ms Bluma Peritz. Prof. M.A. Gopinath acted as the moderator.

### Sarada Ranganathan Lectures

The Sarada Ranganathan Lectures by Ms Jean Tague-Sutcliffe were spread over three afternoon sessions and were devoted to various aspects of measurement of information.

Mr B.K. Sen acted as the Chief Rapporteur while Ms R. Shalini, Mr D.K. Gupta, Ms B.M Meera, Dr Aparna Basu, Ms A. Vagiswari, Dr Roneld Rousseau and Ms Mari Davis reported on the seven technical sessions.

The Conference ended with the Chairman's speech by Prof. G. Bhattacharya, a summary presentation by Mr B.K. Sen and vote of thanks by Dr Seetharama.

### Next Venue

The programme committee meeting discussed the venue for the forthcoming conferences and decided on holding the next conference in Berlin in 1993 followed by Chicago in 1995 and Jerusalem in 1997.

B.K. Sen
Ram D. Taneja

## Worldnet Dialogue on CD-ROM Technology

In recent years CD-ROMs have emerged as a revolutionary innovation that promises to alter the very concepts of information storage techniques. With a near 1000-fold increase in storage capacities, these devices hold vast potential to create richer and newer applications.

Recent developments and future prospects in this area were vividly highlighted by a programme presented by the American Center Library, New Delhi on 11 July 1991. "Worldnet Dialogue on CD-ROM Technology—Applications and Uses" was an engrossing programme received live in New Delhi via satellite and viewed by an invited audience, over a hundred strong.

Panelists from New Delhi, Bombay, Lahore, Cairo and Tel Aviv participated in the event. Mr Jerry Mc Pall, Computer Scientist, US Geological Survey in Washington DC fielded questions from the panelists. Other Washington experts participating were Ms Nancy Melin Nelson (Mechler Corp.) and Ms Sera Straw (US Information Agency).

The New Delhi Panelists who queried Washington were Prof. T. Viswanathan (INSDOC), Mrs S.L. Chinnappa (NIC-MEDLARS) and Mr J.S. Raju (Computers Today).

The queries covered a wide range and demonstrated the exciting possibilities of CD-ROM applications—LAN on CD-ROM database, copyright and operation of CD-ROM on-line services, standardization of clients, server machines consequent on proliferation of CD-ROM in library environment, cost of marketing CD-ROM disks and their shelf-life, archiving of information on CD-ROMs vis-a-vis microforms, user education, hardware standardization for optical storage capability, CD-ROM and the electronic library of the future, etc.

The 90-minute programme was highly interesting and informative.

# News and Events

### Workshop on Energy Information Handling, Islamabad, Pakistan

The Workshop was organised during 12-16 May 1991 by the National Institute of Silicon Technology (NIST), Islamabad and sponsored by Unesco, NIST and other organisations in Pakistan. This is the second workshop on energy information handling organised through the efforts of Unesco under the auspices of Information Network on New Energy Sources and Technologies for Asia and the Pacific (INNERTAP). The first one was organised at Kathmandu, Nepal in 1987.

About 30 participants including energy scientists, planners, and information handlers attended the workshop from all over Pakistan. Presentations were made on energy information system; energy information sources; status, potential and problems relating to various forms of energy in Pakistan; energy information handling; consolidation and repackaging of energy information; etc. The collection of the papers presented in the workshop has been brought out in a beautiful volume.

Dr Afique Mufti, Director General & President, Inter-Islamic Network on Renewable Energy Sources played a major role in the organisation of the workshop.

Shri B.K. Sen, Dy. Head, Education and Training Division, INSDOC, New Delhi acted as a Unesco Resource Person.

### Standards for Library and Information Science Education—IATLIS Seminar

Teachers of library and information science and librarians affiliated to Andhra University attended the IX IATLIS National Seminar held at Visakhapatnam during 26-28 August 1991.

The theme of the Seminar—Standards for Library and Information Science Education covered the following areas :

Standardization objectives, course contents, teaching methods, qualifications of teaching personnel, accreditation purpose, procedure, curriculum, assessment (self-study guides, measurement and ranking) and guidelines for accreditation of LIS schools, role of Union Government, UGC, professional organizations and library schools, etc.

A detailed report of the seminar will be included in the next issue of the *Newsletter*.

### Computer Application to LIS Activities—NISSAT-INSDOC Training Courses

The 17th Training Course devoted to computer application to library and information activities (for freshers) was organised during 15th April–10th May 1991. The course content comprised MSDOS, CDS/ISIS, dBase, Wordstar, Lotus 1-2-3 and theoretical topics such as microcomputer, hardware, files and database organisation, computerised information retrieval, common communication format, etc. About a dozen students attended the course.

The 18th Training Course devoted to CDS/ISIS (Ver 2.3) with PASCAL interface was organised during 8th July–2nd August 1991. The course was organised to update the knowledge of those who had earlier exposure to CDS/ISIS (Ver 1.0). Fifteen trainees attended the course.

The 19th training course with the same course content as that of the 17th is being organised from 19th August 1991 with 20 participants from all over India. From this course, the duration of this type of course has been enhanced from four weeks to five weeks following the constant demand from the trainees. The course ends on 20th September 1991.

Five more courses will be organised till March 1992 [See *NISSAT Newsletter* No. 1, 1991, 19], of which one is devoted to Bibliometrics [30 Sept to 12 Oct, 1991], two on computer application to library and information activities (for freshers) [11 Nov.–13 Dec., 1991 and 2 March–4 April 1992]. One on DBMS & dBase [30 Dec. 1991–24 Jan. 1992], and another on 'Recent Developments in Information Science & Technology [4 February–14 February 1992]. A few seats are available in all the courses except the one starting on 11 Nov., 1991.

The Course Coordinator is Shri B.K. Sen.
*Contact address* :
Deputy Head, Education & Training Division,
INSDOC, 14 Satsang Vihar Marg, New Delhi-110 067.

### Computerised Data-base Search at NICFOS

The National Information Centre for Food, Science and Technology (NICFOS) at CFTRI, Mysore, has developed facilities for computerised "Data-base Search" of world literature in food science and technology and related disciplines. Retrospective search-service facility extending upto about 20 years is available on nominal payment basis. Titles alone or titles with abstracts can be requisitioned as required by the intending users. Further details can be had from the Head, NICFOS, CFTRI, Mysore 570 013.

### DIALOG Database Provide Information on Indian Companies

DIALOG Information Services Inc., USA, the largest on-line database system in the world recently announced KOMPASS ASIA/PACIFIC : Business Directory of Asia-Pacific Companies. Kompass Asia/Pacific carries information on approximately 160,000 companies in the Asia-Pacific region which includes countries such as Australia, Brunei/Darussalem, China, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, New Zealand, Philippines, Singapore, Taiwan, Thailand. The database includes information on 18,707 Indian companies of which 6,448 are exporters. The information offered by Kompass Asia/Pacific includes name and address of companies with telephone, telex and fax number, number of employees, foreign trade status, name of senior executives in-charge, product line, etc. The database can also be used to identify importers and exporters in several countries of Asia/Pacific region. Kompass Asia/Pacific is an exclusive database of DIALOG.

Informatics (India) Pvt Ltd., a Bangalore based information consulting company are the training and educational consultants of DIALOG for India. A search carried by Informatics on this database identifies city-wise coverage of Indian exporters in this database as given below :

| City | No. of Exporters |
|---|---|
| Delhi | 2391 |
| Bombay | 1453 |
| Madras | 429 |
| Calcutta | 171 |
| Tirupur | 167 |
| Bangalore | 116 |
| Cochin | 44 |
| Hyderabad | 31 |
| Coimbatore | 28 |

### ASFA Database

The institute as an Indian National ASFIS Centre (Aquatic Sciences and Fisheries Information System of FAO/IOC, UNEP, UN/OALOS) includes various Indian publications relating to marine and brackishwater aspects, in its Database. It also carries out computerised literature search on ASFA Database.

The services of literature search as well as inclusion of publications to this Database is carried out free of cost. Details may be obtained from Documentation Officer, National Institute of Oceanography Dona Paula, Goa.

### Indian Software Makes Impact : Hanover Fair CeBIT '91

"India held out promise of emerging as a"software power" to be reckoned with through its impressive show at the Hanover Fair CeBIT '91, the specialist fair for office systems, information and telecommunication technologies that meets in Germany annually.

Some 40 Indian exhibitors, divided almost equally between software and telecommunications, computer hardware and peripherals, reflected a rather rapid transformation of India's capabilities: for example, software exports from India had registered a five-fold increase from Rs 340 million in 1985 to over Rs 1750 million in 1990. In less than a decade, India's computer industry has diversified and expanded its areas such as systems software development, systems conversion design, management information, financial control and accounting, production management and inventory control, project feasibility studies and project monitoring systems, telecom software, CAD/CAM and expert systems.

The Indian exhibitors were unanimous in the view that Germany offers a particularly attractive market. With the last changing scenario in Europe triggered by the evolution of the Single Internal Market in 1992, Germany's increasing requirements of software can be profitably met by India's advantage in lower developmental costs and the availability of some of the world's finest software experts and computer specialists, according to many experts. "Overseas marketing tie-ups and continuous updating our expertise in handling software intensive projects and in conceptualisation engineering have been among our strong points", stated a spokesman for Tata Consulting Engineers.

Germany is a net importer of software today. India already exports some DM10 million worth of software which, though small by international standards, betrayed tremendous potential for expansion in the last couple of years.

Meetings with potential collaborators and end-users at the CeBIT fair have led to promising negotiations in the areas of turnkey project execution, software migration/conversion/redesign, custom-made software development, complete simulation software, consultancy services and integrated computer packages. "We see the greatest potential in the German market for our software services and we are confident that with a little more effort and intensified marketing strategies, India can make a real dent in the fields", asserted Moosa Reza, Chairman of Trade Fair, asserted moosa Reza, Chairman of Trade Fair Authority of India (TFAI). TFAI was responsible for the official participation of Indian firms, nearly half of which were in Hanover for the first time "While the big firms can manage to participate on their own here, it is now our policy to give as many newcomers as possible a chance to expose themselves before this international hi-tech clientele". Reza added.

Ever since India figured as partner country two years ago at Hanover, it has witnessed a perceptible growth in business. In 1990, the 33 firms from India reported total business transacted to the tune of Rs 220 million Rs 112 million worth for DP peripherals and micro-computers, Rs 50 million for telecommunications, Rs 30 million for CAD/CAM.

There were many technological innovations and refinements for the forward-looking businessman. A new trend at the top of the market was high-performing public fascimile services with laser printing. Another important growth area was the use of fax for PCs, enabling users to write and send fax messages without committing them first to paper. A computer that writes down what it has heard from a spoken voice was another star of the show."Networking as a parameter for competition in financial services" also found presentations on new concepts and technology for banking operations. More than 4,500 exhibitors from some 50 countries converged in Hanover for CeBIT in a vivid reflection of the technologies at work and the economic forces working on them. Businessmen also had an exposure for the first time to satellite communications for business purposes.

### S&T Books and Periodicals : Central Distribution Network

A network for the distribution of scientific publications to the developing countries is being created and should become operational in early 1992. The project has been designed by the International Council of Scientific Unions (ICSU) with support from UNESCO/PGI, the International Centre for Theoretical Physics and the Third World Academy of Sciences (TWAS), the International Book Bank (IBB), the Canadian Organization for Development through Education (CODE), the American Association for the Advancement of Science and the Commonwealth Higher Education Support Scheme.

The lack of up-to-date scientific and technical books and journals is a pressing problem facing most researchers in the Third World. Scientific libraries in the developing countries rarely have enough money to subscribe to journals or to buy books. The problem, which also affects the institutions of Eastern Europe, has been recognized. There have been several programmes to donate books and journals or to sell them at reduced prices to the developing countries, but so far, no international and interdisciplinary co-ordination of these efforts have taken place.

The idea for a central network grew from the realization that a great deal more could be accomplished if all these programmes were co-ordinated. Each potential donor has had to find out who might be interested in the donated literature, where it would be most useful, what kinds of material to send and how they should be sent. The lack of a network means that the same work of establishing contacts is being done over and over—and that many potential donors become overwhelmed by the logistics involved.

A meeting of librarians, participants in donation programmes and representatives of ICSU and UNESCO was recently held in Paris Headquarters, to examine the guidelines for the proposed network. The participants foresaw a system where an interested donor could get in touch with the network and send in a list of the material available. The network would put the donor in touch with the most appropriate participating programme to handle the donation, to store the material, to find a recipient and to ship the material.

The participants stressed that all the donations should be request-led, that is, the Donations should be specifically asked for by the recipients. The purpose of these programmes is not to turn the libraries of the developing countries into dumping grounds for obsolete or unwanted material. The donated literature should be selected according to strict criteria, in order not to waste money on shipping useless material.

The network also plans to run a seminar on the appropriate provision of scientific and technical materials at the Conference on Donated Book Programmes to be organized jointly by UNESCO, the Canadian Organization for Development through Education and the International Book Bank in September 1992, in Baltimore, Maryland (USA).

The emerging new technologies create new possibilities for transfers of scientific material. PGI is currently studying the feasibility of distributing core journals on CD-ROM disks to the developing countries. These compact disks are a very efficient method of storage—one disk can, on average, hold the equivalent of 20,000 printed pages.

In the long run, the libraries of the Third World cannot remain dependent of donations from the industrialized countries. Therefore, one of the long-term goals of the network is to support local publishing, as well as exchanges of scientific publications between developing countries.

More information on the network project is available from. ICSU 51, Boulevard de Montmorency 75015 PARIS (France).

**CD-ROMs Multiply**

In 1986 there were 94 different CD-ROM database titles in the world. The latest edition of TFPL's CD-ROM directory lists 1522 discs, over 16 times more.

According to the 1990 directory, most CD-ROM titles (58.5%) still come from US producers, with German (6.1%), British (5.9%) and French (5.3%) publishers being the next most prolific. In all, 1,840 companies in 27 countries produced CD-ROM discs during 1990. Every country roughly doubled its publication output. The main subject areas for CD-ROM are still biomedicine, general interest, science and technology, and banking, but areas such as drugs and pharmaceuticals, maps and government information are showing a marked increase. Education and training account for only 3.0% of the total, and manuals (the application some saw as CD-ROMs' primary niche) only 0.6%. The *CD-ROM directory* is available on CD-ROM and in print, both for the same price, GBP70. The disc uses KA-ware2 retrieval software and is for use on PC compatibles.—*The electronic library*. Vol. 9, No.1, 1991.

**Teaching Package on Standardization in Information Handling**

One of the objectives of Unesco, through its General Information Programme, is to promote standardization in the field of information handling. On the one hand it is concerned with the development of guidelines and standard-like materials in those areas of information handling where international efforts are needed and on the other hand, with the use and application of existing norms and standards.

In the latter area, Unesco has so far concentrated its activities on the dissemination of information on existing standards. This has been done in part through the publication of the *UNISIST guide to standards for information handling*, and, in cooperation with ISO, the ISO *Standards Handbook on Information Transfer*. It has also organized seminars at regional, national and international levels covering the whole range of information handling standards or some specific topics in this field.

However, the impact of such activities remains rather limited, for users cannot gain the full benefit from publications such as those mentioned-above, unless they are already well aware of and familiar with all the problems and aspects of standardization in information handling. Equally, UNESCO can only support a very small number of seminars attended by relatively few participants who may or may not be in a position to reflect what they have learned during these seminars in their respective countries or organizations.

Another reason why the impact of UNESCO's activities in this area is still limited, is that most of the curricula in institutions of library and information science teaching do not include standardization of information handling processes and procedures as a specific topic. Some 'standards' may be taught, such as specific bibliographic rules or formats, but without dealing with the rationale behind their use and the need for their compatibility. In other words, the increasingly critical importance of standardization in the exchange and flow of information is not always emphasized sufficiently.

It is for this reason that PGI has undertaken a publication entitled *Teaching Package on Sandardization in Information Handling*. It consists of nine modules and a general introduction. They are suitable for use in schools of library and information science as they stand, or they can be adapted to meet local needs. Each module takes the form of a complete lecture which could be given either as it stands or adapted to meet local needs. To form the structure of the presentation both for the instructor and the students, a set of overhead transparencies has been designed to be used in conjunction with the lecture notes.

**CODATA Referral Database**

Version 2 of the CODATA Referral Database (CRD), providing information on data centres for science and technology throughout the world has now been complete with support under a UNESCO/PGI contract. The 1165 entries in version 1 have been updated and augmented by descriptions of nearly 200 additional data centres in China, Japan and the Republic of Korea.

CRD is available on diskettes with user-friendly search software included at a cost of US $ 175, and CODATA has also agreed to provide a free copy to a major scientific or STI institution in each developing country. Enquiries on CRD should be addressed to: Committee on Data Science and Technology(CODATA), 51 Boulevard de Montmorency, 75016 PARIS (France).

**Animated Document**

One day in the future, lying in your in-tray might be a movie—on a single sheet of plastic. That's the promise of a new technological development known as the animated document.

If you look at the sheet in a strong white light, then tip it forward and backward, you'll be able to view an animated sequence of 70 or more crisp, computer-generated images to show you, for example, how to use a new tool.

The animated document is the brainchild of a team of Xerox Corp. researchers. The essential technology is holography, which can record many images on one surface, in such a way that each is visible only from a unique angle. That produces a realistic, three-dimensional effect.

At present, the apparatus needed to make a master animated document, which can be copied photographically, takes up half a room. With further work, say the researchers, the technology could be crammed into a box small enough for office use.—*Business Week*, June 1991.

**Access to Metallurgical Data**

Developing countries can now tap into a broad range of computerized data on the metallurgical industry—and at what are claimed to be bargain prices—via MICRO-METADEX$^{PLUS}$, the first product to be developed as a result of a collaborative agreement between the United Nations Industrial Development Organization (UNIDO) and Materials Information. Material Information is the joint information service of the Institute of Metals, London, UK and ASM International, Cleveland, Ohio, USA.

A diskette contains subject subsets from METADEX, the world's leading database on metallurgy, coupled with the search capabilities of CDS/ISIS (Mini-Micro Version)

The database will run on PC compatibles with at least 640 K of RAM and a hard disk.

Datasets currently cover information for 1989-1990 on environment, scrap and recycling; gold and silver production and recycling; beneficiation; foundry technology; and welding, with energy use soon to follow. Each dataset comes with CDS/ISIS (Mini-Micro Version) built in, allowing powerful menu-driven searching of the information.

Pricing of datasets varies according to the quantity of data they contain. Most cost US $ 395, with a 30 per cent discount for developing countries. An education package, covering around 1,500 records is available—only to bonafide teaching establishments—for US $ 50, but is free to developing countries.—*UNIDO Newsletter*, March 1991.

**MHIDAS on CD-ROM**

US company SilverPlatter Information, Inc, has added the Major Hazardous Incident Date Service (MHIDAS) database to its OSH-ROM CD-ROM. MHIDAS is developed by the Safety and Reliability Directorate of the UK Atomic Energy Authority with support from the UK Health and Safety Executive, and provides key information on over 4,000 major accidents involving chemicals.

The MHIDS database includes summaries of incidents involving hazardous materials that resulted in, or had the potential to produce 'off-site' impacts including evacuation casulties of damage to the property of neighbouring populations. It contains almost 5000 records covering over 4000 incidents involving hazardous materials and incidents which had the potential to produce a significant impact on the general public. It covers incidents which occurred in over 95 countries during the last 25 years. Some earlier, well-documented incidents are also included.

The MHIDAS database joins OHS-ROM, which carries three bibliographic databases on occupational safety and health, including CISDOC, the database of the International Occupational Safety and Health Information Centre of the International Labour Organisation (ILO). For more information, contact SilverPlatter Information, Inc.

**Voice and Data Accessed by Phone**

A Californian company called Octel Communications has launched the Voice Information Processing Server, a computer system that gives callers access to integrated voice, data and image information during single touchtone telephone call.

The Octel server is claimed to be the first technology to unite separate information sources and make them available during the same "Power Call" session. Callers from any touchtone telephone can interact with computer databases, use voice messaging, hear notification of text messages on a connected electronic mail system, retrieve pages from electronic documents via fax, and stay Informed with audiotex news reports.

Among other facilities, the system can scan callers' profiles in a database to present them with personalized information and choices they can act on during the call. Existing Octel voice-processing systems can be upgraded to the server by adding Octel's new Unix-based Data Module software.—*Information World Review*, May 1991.

**UNCED Information Service**

The UNCED (United Nations Conference for Environment and Development) Secretariat is setting up an information service that will play an important part in preparatory work for its conference in Rio de Janeiro, Brazil. The UNCED Information Service (UIS) will include information about the major ongoing and planned activities on environment and development in various international organizations.

The US database will also hold information on organizations, their activities and related documentation, and will be categorized according to the issues and cross-sectoral objectives to be considered by the Earth Summit in 1992. The database is expected to have a key role in the preparation of Agenda 21, a document which is supposed to define and describe what human beings want from their environment and how they expect to develop.

UNCED expects that the database will hold information not only on the various organizations within the UN system, but also on all other relevant national and international organizations. The database will be accessible via modem and will allow for other kinds of electronic communications and conferencing. Non-computerized media will also be used to disseminate information to those without computers. For further information, contact : Janos Pasztor, United Nations Conference on Environment and Development, BP 80, 1231 Conches, Switzerland. —*Network '92*, March 1991.

**Macau Institute for Software Technology**

The United Nations University (UNU) is establishing a new research and training centre in Macau to assist developing countries with their computer software technology needs.

UNU, the governments of Portugal and the People's Republic of China, and the governor of Macau agreed to set up the UNU International Institute for Software Technology (UNUIST) in March 1991.

UNUIST is the first international institute devoted to helping build modern software technology capability in developing countries. Its central objective is to undertake research, advanced training and the application and dissemination of knowledge, as well as the development and adaptation of software relevant to the needs and capabilities of developing countries.

While the decreasing cost of mini-computers now makes them an affordable commodity for users in developing countries, appropriate software is in short supply.

Packages on the market are either general-purpose or specific application software that is popular and therefore commercially attractive to develop. However, there are many applications that are important to developing countries but for which they cannot afford the cost of producing the required software, or which are too specific to present a viable market for commercial developers.

There are a number of national or regional institutes for software technology, but none with an international perspective and none with an international prospective and none devoted building a modern software capability in developing countries.

Furthermore, transferring software technology becomes more difficult as systems grow more complex, thus making the local development of some software essential.

Gaps in knowledge and competence between industrialized and developing countries are very substantial, but UNU expects the new institute to help developing country specialists reach the state-of-the-art in software technology.

Expected to start operating shortly, the institute's starting costs will be met by a US $ 20 million UNU fund set up by the governments of Portugal and the People's Republic of China, as well as the governor of Macau. The governor may make available additional funds to cover the institute's initial operational costs.—*Development Forum*, June 1991.

**Standard for Electronic Document Citation**

An increasing number of publications and other documents are appearing in electronic form, having been created, maintained and disseminated on a computer system. An electronic document may be fixed and unchangeable, or it may take advantage of its computer environment to incorporate modifications in both form and content.

An electronic document may or may not have a paper equivalent. Despite the complexity of the task, electronic documents need to be referenced if the integrity of the intellectual process is to be preserved.

Recognizing this need, the International Organization for Standardization (ISO) has set up a committee (ISO/TC46) which aims to establish an international standard for the creation of references to electronic document.

**NEHU Lectures on IT**

Sri B.K. Sen, Deputy Head, Education & Training Division, INSDOC & Coordinator, National Centre on Bibliometrics was at The North-Eastern Hill University, Shillong as a Visiting Fellow during July 1991. He delivered lectures on Information users & their needs, systems analysis, and universal decimal classification to M.L.I.Sc students. He also delivered five special lectures to M.L.I.Sc & B.L.I.Sc. students covering such topics as information series, INSDOC and its activities, librarianship as a profession, library associations and their activities with special reference to India and Impact of information technology on library and information activities.

**New Data Challenges In Our Information Age—13th International CODATA Conference, Beijing**

The Conference will be held during 19-22 October 1992. It will be organized around sessions in the area of scientific and technological data challenges and will provide an appropriate frame work for discussion of the following major themes :

- Global Change
- Artificial Intelligence : data and knowledge synergy
- New computer-aided archaeological methods
- Biology and Agriculture
- Material and Industrial Data
- Geo- and Space Sciences
- Chemistry and Physics
- Computer networking
- Programming tools
- Legal and social aspects of data

Prof. Lee, Yuan T., Nobel Laureate in Chemistry Prize 1986, of the University of California at Berkeley will be the keynote speaker at the '92 CODATA Conference.

In addition, three sessions in parallel with appropriate CODATA sessions will be offered by the World Data Centres. They are entitled :

- Paleoclimate data
- Environmental data rescue, and
- Access to environmental data.

All major themes of the Conference will be covered by invited papers. In addition, contributed papers will be presented either in oral or poster form. Specialists in the fields of data collection, analysis, evaluation, and organization of data sets and data systems applications are invited to submit contributions on subjects within the scope of the Conference.

A title and abstract of about 500 words should be submitted as soon as possible to the program committee Co-Chairmen :

Prof. J.E. DUBOIS
CODATA Secretariat
51, bd, de Montmorency
75016 Paris, France.

Prof. XU Zhihong
Institute of
Chemical Metallurgy
Chinese Acad. of Sciences
Box 353, Beijing 100080,
China.

## Information Technology and National Development: International Conference at BHU

The Department of Library and Information Science and the Department of Computer Engineering, Institute of Technology, BHU are organizing the above conference at Varanasi during December 16-17, 1991. The Conference is part of the programmes dedicated to the Platinum Jubilee Year of BHU and is jointly sponsored by IDRC, South Asia Regional Office, New Delhi and Banaras Hindu University, Varanasi.

The conference will deliberate on impediments to and problems of development that can be overcome by using information technology; to devise models and strategies for implementation of information technology solutions to the developmental problems, to project scenarios emerging out of implementation of information technology solutions

*Topics*—The topics covering the theme of the conference are :

1. Information technology applications for development in :
   - Agriculture and agro-industry
   - Social, economic, organizational and management aspects :

     Decision support systems, Expert systems, Knowledge systems, Artificial Intelligence, Office Automation
   - Industrial Production, Process Industries : CAD, CAM, and ROBOTICS
   - Banks and Retailing
   - Communications
   - Education and literacy drive
   - Health delivery
   - Environment
   - Publishing
   - Information Technology and Society

2. Information, Information Systems and Services:
   - Conceptual and theoretical issues of information as resource for productivity enhancement.
   - Nature of information required for development.
   - National information systems, existing situation and needs.
   - Building indigenous capability and infrastructure to ensure accessibility and utilization of information for development by the end users such as government, research and development establishments, the productive sector, professionals and individual entrepreneurs in the different sectors and geographical locations including the rural region.
   - Establishing or strengthening material infrastructure to facilitate the availability of and access to information resources.
   - Constraints on the flow of information from internal and external sources; technology transfer and flow of information.
   - Establishing network for the exchange of information.
   - National Information Policy.
   - Information Technology and Libraries.

*Convenors*—Prof. Raghunath, Head, Dept. of Computer Engineering, Inst. of Technology, Banaras Hindu University

Dr. Y.P. Dubey, Organizing Secretary, Dept. of Library and Information Science, BHU, Varanasi, U.P. 221005.

### NIC Training Courses

The following courses have been lined up by the Training Division of National Informatics Centre (NIC), A Block, CGO Complex, Lodi Road, New Delhi 110 003. Please contact the Training Division at the above address for further information.

| Course Title, Level | Schedule |
|---|---|
| 1. Emerging Trends in Information Technology: one day, for Joint Secretary and above | 23 Nov. 1991 |
| 2. Computer Appreciation Programme: 5 days. For Under Secretary, Dy. Secretary, Director or equivalent | 21–25 Oct. 1991<br>25–29 Nov. 1991 |
| 3. Fundamentals of MEDLARS Searching: 5 days. For Medical librarians, information scientists, health professionals | 7–11 Oct. 1991 |
| 4. CDS/ISIS Basic Course for librarians and information scientists: 5 days. | 23–27 Sept. 1991 |
| 5. Advanced Course on CDS/ISIS: 10 days. For librarians/information scientists | 11–22 Nov. 1991 |

### New Worlds in Information and Documentation: FID Conference and Congress

This Congress will be held in Madrid, Spain, from 22–30 October 1992.

Sessions will deal with : Information policy; Information Science; Applied Information Technology; Information Processing and Products; Information Management; Business; Finance and Industrial Information; Professional Development.

Abstracts should be received before 31 October 1991.

For further information, please contact : FID Organizing Committee, ICYT Joaquin Costa, 222800 MADRID, (Spain).

### P. G. Diploma in Archives and Documentation Management, GRI, Gandhigram

The Gandhigram Rural Institute (Deemed University) is starting a one-year Diploma Course in archives, library, information and documentation science. The course is open to graduates with degree/certificate in library science or post-graduates. The medium of instruction is English. For more information, contact the Librarian and Coordinator, Gandhigram 624 302.

### AMU Refresher Course in Library and Information Science

The Aligarh Muslim University is conducting a short refresher course in Information Management in libraries and specialised centres during 6 Jan 92–01 Feb. 92 for lecturers in library science, librarians etc., working university and college libraries. The closing date for receipt of application obtainable from the Director, Academic Staff College, Aligarh Muslim University, Aligarh 202002 is *6 December 1991*.

### Machine Translation—Unesco Regional Workshop, New Delhi, 16-20 December 1991

Part of a series of workshops on new information technologies, the workshop on Machine Translation is scheduled to be held during 16-20 December 1991 at the National Institute of Science, Technology and Development Studies, New Delhi.

The objective of the workshop would be to bring together specialists to share information on :

A. Status of machine translation in different countries like Japan, EEC, China etc. covering broadly the following aspects :

- i) Basic concepts of translation system
- ii) Software system for machine translation
- iii) Machine translation processes
- iv) Grammar models in machine translation
- v) Dictionary construction
- vi) Integrated system of machine translations.

B. Type of machine translation required for the countries of the Region.

C. Description of R&D Projects for machine aided translation to be undertaken as a component of ASTINFO.

D. Suggest mechanism for undertaking coordinated R&D Projects on machine translation.

Participiants are invited to present papers and demonstrate their MT systems.

The extended abstract of the paper should be sent by October 15,1991, and the full text of the paper by November 15,1991.

Resource persons from Japan, China, Korea, India and EEC countries would be invited to give lectures on concepts of machine translation systems, and demonstrate the software developed.

For further information contact Director, NISTADS, Dr K.S. Krishnan Marg, New Delhi-110 012.

### *CD-ROM in Print* at IIM Calcutta

The B.C. Roy Memorial Library, IIM Calcutta has recently installed *CD-ROM in Print: An International Guide* in CD-ROM by Meckler.

The database covers 1600 titles commercially available in Compact Disk edition. Each record includes information about descriptive details, providers, hardware/software and subscription rates.

The library would extend information services free of charge till December 1991. Those interested may write to Librarian, IIM Calcutta, Diamond Harbour Road, P O Box 16757, Alipore P.O., Calcutta 700 027.

### DELNET Starts Courier Service

In the last Consultative Committee meeting, of which DELNET is the Convenor in Delhi, the concept of starting a courier service was mooted. This was primarily to help the libraries serve their respective users on documents discontinued in the process of rationalisation. NISSAT has now come forward with financial support to implement the concept. A code of conduct is being drafted. Initially, the courier service will cover participants to the Consultative Committee mechanism and the DELNET.

R.N.-34608/78
RNI New Delhi

Laser Typeset by ADR Enterprises, Saket, New Delhi-110017
Printed at: Natraj Printers, 80F, Kamla Nagar, Delhi-110007

17 FEB 1992
S.P.T.S.I., [illegible]

ISSN 0970 - 0188
Oct - Dec 1991

# 91/4

# NISSAT

NEWSLETTER

rly Organ of National Information
ystem for Science & Technology
Department of Scientific &
Industrial Research, New Delhi.

NISSAT

NEWSLETTER

Vol. 10 No. 4 Oct.-Dec. 1991

**Editorial Committee**

Dr A. Lahiri
Jt. Adviser (NISSAT)
Department of Scientific & Industrial Research
New Delhi-110016

(Smt) S. Ravindran
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri B.G. Sunder Singh
Dept. of Scientific & Industrial Research
New Delhi-110016.

Shri S. Nagarajan, President
Society for Information Science
c/o PID, New Delhi-110012.

Shri P.C. Bose, Secretary,
Society for Information Science
c/o ARIC, New Delhi-110012.

Shri R.N. Sharma
Society for Information Science
c/o PID, New Delhi-110012.

**Editor: Ram D. Taneja**

**Editorial Office:** S-371, Greater Kailash-I,
New Delhi-110048.

© 1991 DSIR, New Delhi.

Published by the Society for Information Science on behalf of National Information System for Science & Technology (NISSAT),
DSIR, Government of India,
Technology Bhawan,
New Delhi-110016.

**NISSAT Newsletter**, published quarterly, is the official organ of NISSAT, and is aimed at disseminating information concerning programmes, activities and achievements of NISSAT as also of the various centres functioning under it. Additionally, it attempts to project major developments in the field of information science at national and international levels.

Communications concerning the Newsletter may be addressed to Dr A. Lahiri, Jt. Adviser (NISSAT), Department of Scientific & Industrial Research, Government of India, Technology Bhawan, New Mehrauli Road, New Delhi-110016. Material published in the Newsletter can be reproduced with due acknowledgement to the source.

**Cover Design: N.N. Sethi, Associated Artists, New Delhi-110001.**

12 FEB 1992
C.F.T.R.I., MYSORE

# Facing the Deluge – II

We need to effectively handle the chain problems of finding time for literature search, to study the literature retrieved and to assimilate information so gathered. It has been noted earlier that developments in information technology would essentially aid the former. So far as the study of literature is concerned, methods are available to make the process faster. Great saints like Swami Vivekananda were known to have the capability to read several lines in one glance. Technologies such as pre-recorded cassettes would fill in a part of the lean periods in the active daily routine of an information consumer. A situation may emerge in not too distant future wherein information inputing to human brain would continue even during the inactive part of the daily routine such as sleep time (Brave New World concept).

It is also necessary to probe the authenticity of vedic "telepathy" method of teacher-to-student communication. It is said that in the hermitage, the teacher and student used to mediate together; during such session, the teacher transferred knowledge to his pupils.

We are yet to understand the functioning of the "brain". The author is not aware whether the capacity parameters of the brain have been measured in terms of say gegabytes of memory, recall time, etc. The capacity may not be limitless but is definitely enormous. We are told that scholars used to memorize the texts (the concept also finds place in the fiction Farenheit 451) in paperless palm leaf age. People with phenomenal memory like Julius Caesar and Lord Macaulay figure in recent history also. Much less we know about the characteristics of "mind" which, as Yudhisthira said, is the fastest in the universe.

That brings us to the point that apart from further development of information on hardware and software, we need to go back to basic science and more importantly psychology and explore solutions to the problems which are looming in the horizon. For obvious reasons, Indians could be fore-runners in this knowledge pursuit.

On this optimistic note, we conclude the *Commentary* of the last *Newsletter* issue of 1991. On behalf of NISSAT staff and the *Newsletter Editorial Board, let me wish a very **Happy and Prosperous New Year** to all our Newsletter readers.*

— A. Lahiri

NISSAT

NEWSLETTER

Vol. 10 No. 4 Oct.- Dec. 1991

## CONTENTS

Facing the Deluge – II 1

NISSATCARD — A Feasibility Study 3

Indo-British Meet on Library Networking 4

I-NET : Packet Switched Service for Reliable Data Communication 5

Use of PCs & CDS/ISIS in Library and Information Environment — INFOTEK Workshop 8

American Center Library : 45th Anniversary Lecture 9

SAARC Wokshop on Technology Information and Its Linkages 10

Rationalisation of Periodical Acquisition in S&T : Survey Report 12

ASTINFO Activities in India 19

ASTINFO-NLA-NISSAT Document Supply Service 23

News and Events 24

# NISSATCARD
# A Feasibility Study

### Progress Report

Just a year ago, the concept of NISSATCARD as a passe-partout for library users was mooted (see *NISSAT Newsletter,* 1990, No. 4). Work on all facets of the project has since been going on. The progress made on its various components is given below:

## 1. Study of Bank-Credit Card

The Bank of Maharashtra which has launched the credit card facility on a tie-up basis with the Bank of India was selected for the study. An analytical study was made in respect of the design of the credit card, definition of terms used, terms of agreement between the member establishment and the bank, and between the bank and customer including the mechanism of functioning of the credit card system as a whole. Differential charges/commissions paid to member establishment for services given to the card-holder and also the cost of providing overdraft facility to card holders in case of insufficient fund in their accounts to pay the incurred bills were identified. Differential annual membership charges for various categories of card-holders were also noted down. Based on the above study and on the requirements of NISSAT facility, a tentative design of the same has been conceived. The design is being tested and modified on the basis of feedback obtained from the chief of the libraries situated in Pune city through personal discussion.

## 2. Identification of Users of NISSATCARD Facility

In order to identify the non-traditional users; small scale units in the manufacturing, processing and servicing sectors in the neighbourhood of Pune were contacted and the nature of their demand was identified. The need to get access to the metro-libraries through local library on inter-library loan basis was stressed. Further, on discussion with the librarian class of regular student users from a privately managed institute was identified: they use the existing network of library system with minimal fees. It is felt that this class of users can be brought formally under NISSAT facility to increase its viability. Based on the above study, users are thus classified on the basis of their objectives of library use. The differential annual membership fee to be paid by the users is accordingly worked out.

## 3. Cost-Pricing Model

Based on the conceived design of the NISSAT facility and the category of users identified, a cost pricing model has been formulated. Alternative pricing for the services to be offered to various categories of users was stimulated on the basis of assumption of various levels of demand and the number of libraries participating NISSATCARD library network. The model and the cost estimate based on the model will be modified on the basis of data which are being collected from the libraries and from the non-traditional users who are presently spending individually on collection of their required information.

## 4. Preparation of Questionnaire

On the basis of the study outlined above, questionnaire has been developed and tested with the chief of the libraries in Pune to assess the adequacy of the data required and the feasibility of obtaining them. The data will be used to design the NISSAT library facility and to work out plan implementing the conceived model. The questionnaire was designed to elicit the information on various parameters as given below:

- Discipline specialisation of the library.
- Daily working hours and weekly working schedule.
- Peak period of demand: daily, weekly and monthly basis.
- Capacity of various library facilities.
- Size of the library staff and budget.
- Period of loaning.
- Penalty for various library defaulters.
- Discipline measures.
- Library's experience with the outside users.
- Class of memberships given and to be given.

- Fees and security deposits charged and to be charged.
- Facilities to be given to the NISSATCARD holder.
- Rate of various library losses.
- Existing load of various library facilities.
- Size of geographical unit for which NISSATCARD system should work.
- Views on joining the NISSAT library system.

### 5. Insurance Cover Against Loss of Library Material

The idea of exploring the possibility of covering the risk against any loss of library material by the GIC was received by the librarian with enthusiasm. Primarily it is seen from the loss rate of library material issued to outside borrowers that any risk covering scheme will be feasible so much that high value of individual risk can be distributed over a large number of card-holders with low premium. To work out the details of the scheme, steps are initiated to have a preliminary (exploration) discussion with GIC authorities to explore the situation.

### 6. Scheme of Data Collection

It has been already mentioned that a structured questionnaire is being developed on the basis of the conceived model of NISSATCARD facility. Questions are framed such that it is possible to get data needed to estimate the system's operational constants, namely, number of books to be issued, number of days to be allowed to retain the book, fees to be charged etc. It is further contemplated to carry out discussion on the conceived model with the librarians of repute from the metropolitan cities before the operational model is suggested. These two ends of the data requirement are being met in two ways. In Step I the chiefs of the libraries in Delhi, Bombay and Calcutta will be interviewed on the basis of structured questionnaire and the model of the NISSAT facility will be discussed. Units in the neighbourhood of these cities will be contacted to supplement the list of users. Secondly, data will be collected from the other libraries located at different places through postal correspondence. These data along with data collected in Step I will be used to study the distribution of the operational constant of the NISSAT facility to estimate their values. □

---

## ***Indo-British Meet*** **on**
## Library Networking

Essentials of library networking and related issues like software requirements, standardization, promotion of communication, E-MAIL, etc., will be discussed at an Indo-British Meet in New Delhi during 14-15 January 1992. The meeting is being jointly sponsored by DELNET, British Council Division, British High Commission and NISSAT.

Library, networking and communication experts have been invited to participate in the Meet. Only specialists or those experienced in the subject area would be welcome to participate as seats are limited.

The British Experts invited for the Meet are:

1) Mr John Smith, National Project Office, U.K. Office for Library Networks, University of Bath, U.K.

2) Mr Peter Smith, Deputy Director, London and South East Region Library Cooperatives, London.

There is no participation fee but a sum of Rs. 300 per participant is payable to meet hospitality expenses. Those desirous of participating may send in their application along with resume through their institution by *15 December, 1991*. Those selected would be intimated by *1 January, 1992*.

Applications should reach Mr H.K. Kaul, Convener, DELNET, India International Centre, 40 Lodi Estate, New Delhi-110 003 by 15 December, 1991.

Participants are expected to make their own arrangements for boarding and lodging.

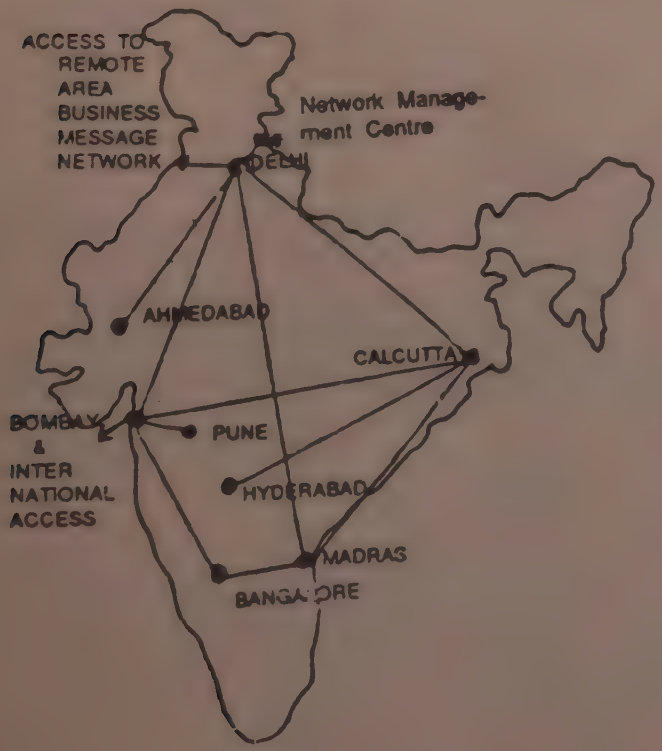
# I-NET : Packet Switched Service for Reliable Data Communication

I-NET is a bearer network for fast, reliable, flexible and cost effective transport of information. This network is being introduced by the Department of Telecommunications.

The network offers facilities for inter-linking terminals and computers through packet switches located in important cities of the country. Subscribers of this network can make international data calls to other networks abroad. This facility is provided through the Gateway Packet Switching System of VSNI at Bombay. Subscribers can also get connected to subscribers of Remote Area Business Message Network of Department of Telecommunications.

## Topology

In the first phase, I-NET is planned with nodes at 8 locations, namely Delhi, Bombay, Calcutta, Madras, Bangalore, Hyderabad, Pune and Ahmedabad. These would be connected through high speed (9.6 kbps & 64 kbps) data links.


ACCESS TO REMOTE AREA BUSINESS MESSAGE NETWORK
Network Management Centre
DELHI
AHMEDABAD
CALCUTTA
BOMBAY & INTER NATIONAL ACCESS
PUNE
HYDERABAD
MADRAS
BANGALORE

## Concept

I-NET is based on "Packet Switching" philosophy with error detection and correction techniques.

Packet Switching can be defined as "the routing of data in discrete quantities called packets, each in specific format and within a maximum size". This technique differs fundamentally from circuit switching used in telephone/telex networks, in that circuits are not switched and dedicated to the users for the duration of a 'call'. Instead, the information to be exchanged between users is transmitted in packets which occupy circuits only during actual transmission of data in a call. These circuits are shared by other calls simultaneously.

The packet switching philosophy enables error free transmission (less than one in $10^9$) and dynamic rerouting of calls (to overcome route failures and congestion) and interconnection of terminals and computers at different speeds and protocols.

For protection against errors each packet is checked for errors at each node along its route and retransmissions from previous nodes are ordered in the event of an error being detected.

As the packet switching philosophy is based on store and forward technique and it provides the capability of terminal inter-connection at different speeds and protocols, independent speed of subscribers line to the network.

## Standards

I-NET supports CCITT standard interfaces/protocols X.3, X.28, X.29, X.25 and X.75.

## Terminal Equipment

Two types of subscribers-end Data Terminal Equipment (DTE) is supported by I-NET:

- Synchronous or Packet Mode DTE.
- Asynchronous or Character Mode DTE

*Packet Mode DTEs* — These DTEs can control, format and transmit packets. These terminals are also known as X.25 data terminals as they interface with the network in accordance with CCITT Recommendation X.25. One of the features of such type of DTEs is the facility which allows a packet mode DTE to simultaneously communicate with more than one DTEs connected to the packet switching network, through a single physical access line to the network. Examples are mini-computers, mainframe computers, intelligent terminals and PADs.

*Character Mode DTEs* — These DTEs work in asynchronous mode. Examples are Personal Computers, VDU etc. These DTEs can support only one call at a time.

*Categories of Access* — Access (connection) to I-NET is possible in the following different ways:

* Using DEDICATED leased asynchronous (X.28) or synchronous connection with standard Modems Drivers. (Table1)

**Benefits from the Usage of I-NET Service**

Packet Switched data communication services are suited for most teleprocessing applications. The following are some of the typical application areas:

— where a large number of users transmit small volumes of data over long distances.

— where a large number of widely dispersed terminals access a common host computer in interactive mode.

— where there is a requirement for communication between terminals with incompatible characteristics (speed, code, protocol).

— where terminals need to access more than one host

Users with the following specific applications will find the I-NET best suited to their existing and/or developing requirements:

* Time sharing and other types of resource sharing.
* Access to databases and information services.
* Credit card checking.
* Travel reservation.
* Order entry, stock control goods handling.
* Management information.

Some emerging system that will depend on data switching capabilities of I-NET are:

* Corporate data/message systems.
* Electronic payment systems/electronic fund transfer systems.
* Maintaining systems e.g., environment, traffic.
* Electronic mail.

Anyone who wishes to use, gather, store or process data between remote locations using computer resources should consider using I-NET.

**Typical Applications**

*Corporate Communications*

I-NET is the ideal solution for corporate bodies for whom data traffic volumes do not justify a dedicated private network without compromising access data security.

I-NET offers corporate bodies extensive national worldwide connectivity through a reliable and dedicated network which can be used for communicating between their different offices for transfer of management information, electronic mail, database access, data processing, etc., This can help in providing the competitive edge in business.

*Information Retrieval*

Public databases (national and international) which have a repository of almost unlimited type of information ranging from news, business, stocks and shares, science and technology, medical research and technical information, etc can be connected to I-NET for easy and cheap public access.

*Remote Job Applications*

I-NET can provide reliable links between subscriber terminals and computers that provide time sharing services for data processing and software development etc.

Using DIAL-UP connections for asynchronous (X.28) connection with 'PSTN' modems. Access is permitted through a confidential user access code called NETWORK USER IDENTIFICATION (NUI).

Table 1 Categories of Accesses

| Type of Access | Mode of Operation | Speeds Available |
|---|---|---|
| Dial up | X.28<br>Asynchronous | 300 bps<br>1200/75 bps<br>1200 bps<br>2400 bps |
| Leased | X.28<br>Asynchronous | 300 bps<br>1200 bps<br>2400 bps<br>4800 bps |
| Leased | X.25<br>Synchronous | 2400 bps<br>4800 bps<br>9600 bps |

**Facilities**

I-NET offers the following facilities which give numerous benefits to its users and can be used for several new applications.

*Reverse Charging*

Reserve charging enables the calls to be charged to the called subscriber provided he has accepted this at the call set up time.

*Closed User Group (CUG)*

The closed user group facility enables a set of users located anywhere in the network to form a closed user group, by way of which neither other subscribers not belonging to this group will be permitted by the network to call these users nor the group can communicate with other users who are not members of the group. This provides virtually a private network capability within the public network.

*Permanent Virtual Circuit (PVC)*

For a subscriber who has a need to communicate regularly with another subscriber, continuous connection between two parties can be established with PVC which functions similar to a local leased circuit connection.

*Fast Select*

Small messages can be transmitted instantly in one packet, i.e., call set up packet itself. This is useful for applications such as credit card systems etc.

Further information may be requested from the Chief General Manager, Data Networks I-10, Sector 12, NOIDA-201301 (U.P.) □

# Use of PCs & CDS/ISIS in Library and Information Environment — INFOTEK Workshop

INFOTEK (Institution of Information Technology) organized a workshop on "Use of Personal Computers & CDS/ISIS in Library and Information Environment" during 7-12 October, 1991 at the National Institute of Port Management (NIPM), Madras. This workshop was co-sponsored by Department of Scientific and Industrial Research (DSIR) New Delhi under its NISSAT programme and NIPM, Madras.

Welcoming the participants, Dr V.A. Kamath, President, INFOTEK reviewed the professional work so far done by the INFOTEK. He further traced the development taking place in high technology areas such as computer, telecommunication, micrographics etc. in India and abroad. Dr Kamath emphasized the need for adquate number of trained computer professionals to meet the challenges posed by networks existing as being planned in our country such as NICNET, INDONET, INFLIBNET, CLIBNET, MALIBENT, DELNET.

**Inauguration**

Dr M. Santappa, Scientific Adviser, Tamil Nadu Pollution Control Board, inaugurated the workshop. In his address he observed that the advances in telecommunication and computer technology were converging quickly towards the new era of information generation, information consolidation and information dissemination. He further stressed that today's information users cannot afford to watch the revolution in information technology from the sidelines without fully participating and harnessing the technology for all their risks. The need of the hour of the library professionals was to learn computer application, software utility, particularly CDS/ISIS supplied by UNESCO and distributed by NISSAT, he pointed out.

Dr A. Balraj, the Chairman, Madras Port Trust in his presidential address, expressed the need for computerization of all Port Libraries and proposed to have a Port Library Network for India.

Dr V. Baskaran, Director, NIPM introduced the NIPM and welcomed the VIPs and participants to his institute. He further extended invitation for conducting this type of training in future at the institute.

There were 16 participants in the workshop: from Tamil Nadu(8), West Bengal(1), Orissa(1), Goa(2), Maharashtra(2), Gujarat(1), Andhra Pradesh(1).

The Workshop participants were given theoretical exposure with practical training on personal computers on the following topics : Computer Systems; MS-DOS; CDS/ISIS structure and function; PASCAL interface; and advanced features of the latest version of CDS/ISIS.

Shri M. N. Seetharaman, Librarian, IIT, Madras delivered a lecture on "Data communication with special reference to online search and retrieval". Informatics India (P) Ltd., Bangalore arranged for demonstration of online and CD-ROM search for the participants. Shri R. Vengan, Deputy Librarian, IIT, Madras gave a technical lecture on "CD-ROM Technology" to the workshop participants.

The participants were assigned project work on the following topics: Database creation of 1) Book Catalogue; 2) Periodical Holdings; 3) Weekly display of current periodicals; and 4) Directory of workshop participants. The participants were grouped into four teams and each team created the databases and submitted its report. The reports were evaluated by Prof. S. Parthasarathy, Institute of Information Studies, Madras on the final day and Certificates were distributed to the participants. He also delivered the valedictory address.

The participants were given an evaluation questionnarie for evaluating the workshop. They provided feedback on the workshop. On the whole, the participants expressed their happiness over the workshop and some of them suggested that such workshops on CDS/ISIS should be conducted in several parts of our country.

Shri R. Vengan, Deputy Librarian, IIT, Madras and Secretary, INFOTEK and Shri A. Lakshmi, Librarian, NIPM, Madras acted as Course Coordinators. □

## American Center Library : 45th Anniversary Lecture

On the occasion of its 45th Anniversary Celebration on 29 Nov. 1991, the American Center Library organized in New Delhi a special lecture on 'Electronic Information Exchange and its Impact on Libraries'. The speaker was Prof. Fred W. Lancaster of the Graduate School of Library and Information Science, University of Illinois at Urbana, Illinois.

Welcoming the distinguished audience, Ms Janot M. Gilligan, Library and Book Officer observed that the Library represented a most expensive exchange program between India and the US and served as a very meaningful instrument of learning and understanding. Mrs Kamla Kapur, Founder Librarian of the Center who had the distinction of working in that capacity for more than quarter of a century was the Chief Guest of the evening. Dr Stephen Dachi, Country Public Affairs Officer requested her to light the traditional lamp and honoured her by presenting a shawl.

In the lecture which followed, Prof. Lancaster dwelt on the impact of computers on the two main library activities affected by technology in the course of the last 30 years. These are: 1) Inventory control activities associated with circulation and technical service functions and 2) Activities associated with subject access.

Automation projects, Prof. Lancaster felt, had quite often adversely affected libraries by reducing expenditure on monographic and serials purchases. This had forced increased reliance on resource sharing and greater expenditure on the technology to make resource sharing possible. In some places library automation appeared almost a goal in and of itself, Prof. Lancaster regretted.

Other aspects dealt with by the learned speaker included computerisation to produce online catalogue. These were more in the nature of card catalogue accessible through terminals with a view to improving subject searching. But they had not brought about any significant improvement as far as in-depth subject searching was concerned.

In the matter of library education computers were becoming an end in themselves. A dichotomy was occurring between computer libraries and traditional libraries. "We have a lot of information technology in our curricula but very little information science", the Professor ruefully observed. What was most important was the users and the impact of technology had to be enhanced for providing improved services to the users, Prof. Lancaster concluded.

Ms Heera Kapasi, Director, Library proposed a hearty vote of thanks. ☐

— Ram D. Taneja

# NISSAT Newsletter

*Extends to Its Readers*

*Season's Greetings and Best Wishes*

*for a*

*Happy New Year*

# SAARC Wokshop on Technology Information and Its Linkages

SAARC WORK
ON
'TECHNOLOGY INFORMATION AND
NEW DELHI
24-2
YASH PAL
Y.S. RAJAN

*(l to r)* **Dr J. Dhar, Prof. Yash Pal and Dr Y.S. Rajan**

A two-day SAARC Wrokshop on "Technology information and its linkages" was held in New Delhi on September 24-25, 1991. The Workshop was attended by delegations from Bangladesh, India, Nepal, Pakistan, Bhutan, and Maldives; the Sri Lankan delegation could not attend.

The Workshop was organised with a view to exchanging information and to assess the existing state-of-the-art in the member countries in order to work out a specific plan of action of interest to this region. The deliberations were organised in 3 sessions. The first session was devoted to the various policies, plans and perspectives. The second and third sessions covered presentations on the existing information systems available in each country and the various networking system available. The concluding session covered the modalities of future cooperation in the area of information technology.

## Inauguration

The Workshop was inaugurated by Prof. Yash Pal, Chairman, Information Library Network (INFLIBNET). In his inaugural address Prof. Yash Pal stressed the crucial role of information technology for the countries of the region, which represent a quarter of human population. He also pointed out that these countries are not devoting sufficient attention to this area. He said that the "Business-as-usual" mode is not adequate and some immediate action should be taken to link the thinking people of the region. To begin with, he said, the countries should attend to carrying library information to remote institutions in this region. The per capita expenditure on library resources in the developed countries is three times the per capita income of India. The present poor situation regarding access to library in the developing countries is catastrophic to the intellectual, industrial, and economic future of the third world. With the costs of journals and books going up, situation in these countries has become worse. It would be an essential first step to ensure that the knowledge of people in this region does not become obsolete. Prof. Yask Pal offered active cooperation from the INFLIBNET Library Network being implemented in India in the SAARC region.

During one of the sessions, Dr P. Rama Rao, Secretary, Department of Science and Technology stressed the need for undertaking joint projects in addition to the useful exchange of information. These projects should be based on complementary strengths of the country. He also desired that efforts should be made to cut down the formalities required to arrive at the projects.

**Country Presentations**

Technical presentations were made by Bangladesh, India, Nepal and Pakistan on the three identified topics. After detailed discussions, it was agreed that information technology will play an important role in the times to come, and every effort should be made to come together to strengthen the existing activities at the national level on the one hand, and work on future tie-ups on the other for proper dissemination and easy access to information.

**Recommendations**

After elaborate discussions and deliberations during the meeting the following recommendations emerged:

1) Each SAARC member country should strengthen its S&T information system

2) Each SAARC country will name a Focal point for disseminating once every six months information on the status of the various science and technology information systems and networks in the respective countries, preferably with the names and addresses of the contact person(s) for further information.

3) Initiative be taken to formulate a project proposal for a SAARC Library Information Network in about a year from now. For this purpose INSDOC (India) was identified to prepare a preliminary proposal before the end of 1991. This document will be sent to the above Focal Points requesting them to send comments and suggestions by March 1992.

4) Formulate a proposal for establishing a SAARC database on the non-index Science and Technology documents generated within the SAARC countries. For this purpose RONAST (Royal Nepal Academy of Science and Technology) was identified to prepare a preliminary proposal by March, 1992. The document will be sent to above Focal Points requesting them to send their comments and suggestions by June, 1992.

5) It was agreed that an outline of a joint proposal on strengthening S&T Information System in the SAARC member states will be prepared by Pakistan. This proposal, *inter alia,* will address exchange visits and training programmes in this area.

The above recommendations will be placed before the SAARC Technical Committee on S&T at its Ninth Meeting by the designated countries for inclusion in the calendar of activities for the next year. ☐

---

## No Substitute

The only communications system in no danger of being replaced by electronics is *the Grapevine.*

— *Catholic Digest*

# Rationalisation of Periodical Acquisition in S&T : Survey Report 1990-91

Vimal Kumar Varun
National Information System for
Science & Technology (DSIR),
New Delhi

Recent studies have brought out that the extent of duplication in periodical acquisition among institutions occurring in close clusters is of the order of 30 per cent. Multiple subscriptions to materials like the Chemical Abstracts are common. Institutions which don't have a problem of funds, don't also bother to find out what their neighbours have been acquiring; they are also less keen to make their massive holdings available for outhouse users. Can Indian institutions afford to indulge in such luxury which has to be paid for in foreign exchange?

The cost of S&T periodicals increases at 15-20 per cent per annum. The recent devaluation of rupee would imply another 20 per cent rise. As library budget in most institutions remains static, the net result would be a reduction in the acquisition of titles. On the other hand, as our scientists and technologists enter into newer areas, their activities would naturally demand access to more new periodicals.

Unfortunately, not many of us seem to have given sufficient thought to rationalising periodical acquisitions. For instance, can we now exchange notes among institutions with major holdings and rationalise our acquisitions? Can we evolve a photocopy supply facility within a city through inter-library cooperation? Is it possible to work out a mechanism of circulation of expensive journals like secondary periodicals among institutions within a city? Would circulation of photocopy of content pages of recent journals be desirable? There are hosts of such questions. Much of the problems could be handled if the institutions located in a small geographic region-like a "city", could get together and look for solutions in right earnest.

In most cases, a formal mechanism to facilitate exchange of notes does not exist. NISSAT attempted to bridge this gap in a few selected cities where Consultative Committees coordinated either by a NISSAT Sectoral Information Centre and/or a local library association were formed. The Consultative Committee for Rationalisation of Periodicals (CCRP) attempted to bring local libraries together to discuss their acquisitions especially renewal subscriptions and resource sharing possibilities. Duplication, if any should be an outcome of conscious decision making.

To experiment on this idea, NISSAT had initially identified 8 cities : Ahmedabad, Bangalore, Bombay, Calcutta, Delhi, Hyderabd, Lucknow and Pune. Later, CCRP activity was extended to Chandigarh, Mysore, Nagpur, Trivandrum, Bhopal Visakhapatnam, Cochin and Kanpur. Details of various CCRP groups are given in Table 1. Work at some of these places is yet to start.

## Progress of Activities

### *Ahmedabad*

The Ahmedabd group has organised two one day seminars on resource sharing. They have prepared a complete catalogue of scientific, technical and management periodicals received in major libraries (40) including all university libraries in Gujarat. This UC has 3914 entries; periodicals duplicated in more than one library during 1989 and 1990 were 463 and 1124 respectively. The list of periodicals received by more than one library in Gujarat was distributed widely.

Decisions were also taken to prepare the following:

- Union Catalogue of audio-visual materials available in libraries of Gujarat.
- Bibliographic information on reference tools in Gujarat libraries.
- A list of participating libraries for inter-library loan and also for resource sharing.

## Table 1 Consultative Committees

| S. No. | City | Association / SIC | Name of Coordinator |
|---|---|---|---|
| 1. | Ahmedabad | NICTAS | Shri P.C. Shah |
| 2. | Bangalore | CMTI | Shri M.S. Srikantiah |
| 3. | Bhopal | — | |
| 4. | Bombay | IIT, BOSLA | Dr S.R. Ganpule |
| 5. | Calcutta | CGCRI, BLA | Dr D. Chakraborty |
| 6. | Chandigarh | P U | — |
| 7. | Cochin | — | — |
| 8. | Delhi | IIC | Shri H.K. Kaul |
| 9. | Hyderabad | — | — |
| 10. | Kanpur | — | — |
| 11. | Lucknow | CDRI, LUSLIC | Shri M. Jinandra Doss |
| 12. | Mysore | CFTRI, AIS | Shri K.A. Ranganath |
| 13. | Nagpur | NEERI | Shri S.G. Bhat |
| 14. | Pune | NCL | Shri R.S. Singh |
| 15. | Trivandrum | KLA | Shri Gopalakrishnan Nair |
| 16. | Visakhapatnam | — | |

So far, the group could achieve a saving of Rs. 1,50,000 through discontinuation of 125 periodicals.

*Bangalore*

The leading engineering organisations in Bangalore met twice. Participants from 16 special libraries attended and the following points emerged from the deliberations.

- — Library cooperation for foreign periodicals.
- — Circulation of contents pages of periodicals to non-recipients of periodicals.
- — Document delivery (photocopying of articles) through payment or coupons.

Besides, 48 periodicals currently received by CMTI were found duplicated in other libraries. While others had the option to drop these subscriptions, CMTI would provide photocopies when required. A union catalogue has been prepared and individual libraries have been requested to identify their partners for resource sharing.

In a parallel action, ISRO (Satellite centre), Bangalore on its own has initiated a similar exercise in exploring the possibilities of Inter-library Cooperation and Resource Sharing by forming "Bangalore Special Library Group (Scientific and Technical)". Two meetings have been held during 1990-91. In the first meeting 16 libraries including NICMAP participated. The following actions were recommended.

- — Exchange of profiles of the participating libraries
- — Exchange of the list of periodicals subscribed by participating libraries.
- — Exchange details of documents costing more than US$ 250 acquired by any of the participating libraries.

(*Note*: It is not clear as to what led to the parallel action which tended to create more confusion than help in solving problems. Noting that another group is interested in the subject, the NISSAT sponsored activity is likely/proposed to be withdrawn from Bangalore.)

*Bombay*

A meeting of the librarians of eleven libraries in Bombay was held to discuss the problems in general. A Union List of Current Periodicals was compiled on floppies. It was also proposed to prepare a write-up highlighting the problems and impressing upon the authorities the need to share the resources and to write popular articles to create public awareness.

BOSLA, through which the activities are proposed to be carried out, has been revived and a new committee has been constituted. Three meetings coupled with half day seminars on topics of book acquisition, journals, mutilation and misuse of books were held. The CCRP activity is slowly gaining momentum.

*Calcutta*

The CCRP group has conducted five meetings. It was decided in the last meeting that data relation relating to subscription of periodicals for 1991 and budget expenditure for last three years of the different S&T libraries in Calcutta will be collected.

An analysis of current periodicals will be made giving

- — cost of the periodical.
- — Duplication of any periodical title subscribed by other libraries, and suggestions for rationalisation.
- — Savings on the budget expenditure
- — Resource sharing on the basis of collected data.

*Delhi*

So far CCRP group has conducted five meetings. Three subcommittees in the field of Agricultural Sciences, Medical Sciences and Physical Sciences were constituted to speed up the activity. Through these deliberations, savings to the tune of Rs. 18,00,000/- was achieved.

It is now felt necessary to make some arrangements for carrying the journals between the libraries so that the sharing of the periodicals is made possible. The facilities could be provided ony to those libraries that are ready to share resources, participate in E-MAIL and collaborate with the DELNET activities. Besides the following important actions have been initiated.

- Drafting of the Code of Conduct for resource sharing activities by a committee, and
- Preparation of a brochur outlining the concept and mechanism for rationalisation of periodicals acquisition (For information of Heads of institutions, library committees, etc.).

*Hyderabad*

A consultative committee meeting attended by 34 participants was held. The committee first considered the need for resource sharing, especially, of industrial information. The committee decided to have a map of industrial and economic projects, assessment of existing information systems and facilities, inter-library loan and photocopy services.

*Lucknow*

A union catalogue of current periodicals in Lucknow libraries was earlier prepared by LUSLIC. The union catalogue shows that out of 2014 periodicals, 200 foreign and 108 Indian journals were subscribed to by more than one institutions. The first meeting held at CDRI was attened by 16 members of LUSLIC. The committee suggested:

- Identification of groups by subject areas.
- Identification of core periodicals in the subject areas.
- Model code of conduct for resource sharing.
- Display of periodicals in other libraries as well
- Dropping 14 journals worth Rs 150,000 in subscription.

Subsequently, the Library and Information Centre of the 4 CSIR laboratories at Lucknow decided to delete 53 journals worth Rs. 4,44,040.

*Mysore*

The first consultative committee meeting of the Mysore City Librarians was held at CFTRI, Mysore under the auspicious of AIS, Mysore. It was attended by 12 participants from 10 libraries. The members recommended establishment of a Local Area Network (LAN) of the libraries and also preparation of:

- A directory of profiles of institutions and specialists in different fields of study including library and information sciences.
- A common monthly accession list of the entire library system. As a byproduct of this activity, catalogue cards should be generated from the computer for the participating libraries on cost basis.
- A logistic map showing the location of the libraries of Mysore city depicting the distance between different libraries, telephone number, etc.

*Nagpur*

The baseline data on periodicals currently subscribed in 23 S&T Libraries in Nagpur were collected. Out of 1400 titles received, 148 are received in two libraries and 64 are received in more than two libraries. The duplicate subscriptions to many expensive periodicals were avoided by mutual consultation even before the process of data collection. There was general agreement on the following points:

- Decision for subscribing to a new title will be made after ascertaining its availability in the local S&T library.
- By mutual agreement, for costly journals, options like exchange of contents pages, lending the required journal for a specified short period and easy access to the journals for members of participating institutions may be explored.
- Disciplines like Economics, Law, Geography, etc. may also be included for attention.
- Considering the cost factor and the limited library resources, the following possibilities may also be explored.
    - To get the journal on complimentary/ exchange basis.
    - Availing institutional membership of learned societies through which all the publications of the societies could be acquired.
    - Photocopying facilities may be strengthened exclusively for library use by the participating institutions.
    - All the participating institutions should convey regularly any changes like additions or

Table 1 ASTINFO Work Plan (1992-93)

| Activities/Projects | Objectives/Targets | Time Frame | Responsible Unit/Orgn. | Requirement Resources | Remarks |
|---|---|---|---|---|---|
| **INDIA** | | | | | |
| 1. Course on CDS/ISIS (elementary & advanced) information technology, CCF, bibliometrics, information marketing, etc., | To provide for participants from ASTINFO countries in national training courses | 1992-93 | Conducted by:<br>NISSAT, INSDOC (New Delhi),<br>DRTC (Bangalore)<br>Poona Univ. and professional bodies | Registration/course fees, travel and per diem of foregin participants | UNESCO/IDRC to be approached to seek financial assistance for foreign participants |
| 2. Regional workshop on methodologies for retrospective conversion using available MARC records from ASTINFO countries (India). | To discuss specific characteristics of MARC formats from the region, e.g. Australia, New Zealand, Malaysia, Philippines, Indonesia, Korea and Vietnam<br>To work out a mechanism for periodic union of available MARC records from the region<br>To get familiarized with the methodology of retrospective conversion using available MARC records from the region | Late 1993 (1 week) | NISSAT in collaboration with CALIBNET and DELNET (India) | $5,000 travel and per diem of ASTINFO participants, resource persons | National workshops in interested countries should precede this regional workshop. Sample MARC files for training purposes should be negotiated by India. Regional workshops should preferably be organised in late 1993 to ensure consideration of developments in countries like Australia, New Zealand, etc. |
| 3. Workshop on library networking | To provide an in-depth understanding of various aspects concerning the design and development of library networks, especially in developing countries | End 1992 (2 weeks) | CALIBNET and INSDOC, Calcutta (India) | $ 5000 for organisation, travel & per diem of ASTINFO participants | Indonesia, Pakistan, Nepal, Thailand are interested in participating in this activity |

*Contd.*

*Table 1 contd.*

| Activities/Projects | Objectives/Targets | Time Frame | Responsible Unit/Orgn. | Requirement Resources | Remarks |
|---|---|---|---|---|---|
| 4. Training course on promotion & marketing of information products and services | To familiarise practising library and information scientists in the principles and techniques of information marketing and promotion | (2 weeks) | NISSAT (India) | $ 5000, travel & per diem of ASTINFO participants | The course should include a module on user training. China, Nepal, Thailand Vietnam are interested in participating in this activity |
| 5. Workshop on production and maintenance of bibliographic databases for online searching | To provide an insight into various types of databases and provide practical guidelines in the design, development and maintenance of databases | 1992-93 | INSDOC, New Delhi (India) | $ 5000 for organisation, travel and per diem of ASTINFO participants | Sri Lanka & Nepal are interested in parcipating in this activity |
| 6. Concept & methodologies for computer communication and networking for library information scientists | To prepare course material<br>To conduct a pilot course (level : elementary) | 1992-93 | NISSAT in collaboration with appropriate institutions | $ 3,000 | Each ACU to send course module or materials on this subject to Dr Lahiri for his consideration in developing course materials/teaching aids |

deletions of journal titles for maintaining the database up to date.

*Pune*

The CCRP group convened 6 meetings of libraries/information centres of Pune during 1990-91. Data from 27 libraries were collected. A Union Catalogue of Current Periodicals in Pune Science & Technology Libraries (PSTL) was prepared in machine readable form. All the participants agreed to photocopy services on payment basis and bilateral cooperation.

A small group of Biomedical libraries has been formed. They have decided to distribute current periodicals amongst themselves. Similar groups for Engineering Science, Physical and Chemical Sciecnes are likely to be formed soon. A case is now slowly emerging for networking libraries/information centres in city.

The larger libraries/information centres like NICHEM, Central Water and Power Research Station (CWPRS) and Centre for Development of Advanced Computing (C-DAC) will provide technical guidance and assistance to smaller organisations in computerising their activities/services.

NICHEM is entrusted with the job of compiling a compending of participating libraries/information centres. A questionnaire to collect the required data has been distributed amongst the 45 participating libraries. In turn, NCL has discontinued 16 titles worth Rs. 0.98 lakhs during 1990 and 25 titles worth Rs. 1.98 lakhs during 1991.

*Trivandrum*

A Consultative Meeting of Heads/Chairman, Library Committees and Librarians of various S&T libraries in and around Trivandrum city was held to deliberate on "Rationalisation of Periodicals Acquisition".

Prior to the meeting, base line data relating to the titles of periodicals received by each of the S & T libraries in and around Trivandum city were collected and analysed. It was seen that out of 2016 periodicals collectively received by 15 libraries, 254 periodicals (Foreign & Indian) including 13 secondary periodicals costing approximately Rs. 20 lakhs were duplicated.

A combined list of periodicals acquired by 15 libraries together with an analysis was supplied to all the libraries represented in the meeting. The librarians were requested to review the periodicals acquired and report to the association. Many participants indicated their inability to provide photocopy services as they did not have adquate reprographic facilities. In the next meeting, list of duplicates and the combined list of periodical acquisition by S & T libraries will be reviewed.

Performance of Consultative Commitees in various cities is shown in Table 2. ☐

# ASTINFO Activities in India

The ASTINFO activies in India are closely coordinated with those of the National Information System for Science and Technology (NISSAT).

An Advisory Committee consisting of information science professionals, representatives of users and of concerned government departments guides the implementation of NISSAT programmes. This Advisory Committee is also the National Advisory Committee of UNISIST and the National Advisory Group for ASTINFO. A small group in the Department of Scientific and Industrial Research under the Ministry of Science and Technology is responsible for the executions of NISSAT programme; and the Head of this group is also the Liaison Officer of ASTINFO in India.

## 1. ASTINFO-UNESCO Activities 1990-91

### 1.1 *CDS/ISIS*

As in the past, the period 1990-91 has seen active promotion of the CDS/ISIS mini-micro version in India. The user base has proliferated. As of July 1991, 497 institutions had taken the Version 2.3. Ten to fifteen nationally advertised courses per year and scores of local or institutional courses helped to make the skill base more widespread.

Two derivative products of CDS/ISIS ar ready for introduction in the market. On named *SANJAY* is an integrated package for total automation of a library. The other called *TRISHNA* can handle text

8th ASTINFO

**Eighth ASTINFO Consultative Committee Meeting at Tsukuba, Japan. Seated at extreme left is the Indian Delegate Dr A. Lahiri.**

### Table 2 Performance of Consultative Mechanism in Various Cities

| S. No. | City | Association/STC | No. of Participants | Analysis | | Yearwise Savings in Rupees | | | | Other Spinoffs |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Titles | Duplicates | 1989 | 1990 | 1991 | Total | |
| 1. | Ahmedabad | NICTAS | 40 | 3914 | 1124 | 16<br>57500 | 60 | 41 | 125<br>1,50,000 | Inter-Lib. Loan<br>Photocopy Services<br>Union Catalogue |
| 2. | Bangalore | CMTI | 22 | | 48 | | | | 48<br>1,50,000 | Photocopy Services<br>FAX facilities<br>Document Delivery |
| 3. | Bombay | IIT, BOSLA | 11 | | | | | | | Union List of Current Periodicals |
| 4. | Calcutta | CGCRI, BLA | | | | | | | | List of periodicals will be prepared |
| 5. | Chandigarh | P U | | | | | | | | |
| 6. | Delhi | IIC | 19 | | 76 | | | | 76<br>18,00,000 | E-Mail Facility, Document Delivery facility, etc. |

*Contd.*

*Table 2 contd.*

| S. No. | City | Association/STC | No. of Participants | Analysis | | Yearwise Savings in Rupees | | | | Other Spinoffs |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Titles | Duplicates | 1989 | 1990 | 1991 | Total | |
| 7. | Hyderabad | IPE | 34 | | | | | | | Inter-Lib. Loan<br>Photocopy Services |
| 8. | Lucknow | CDRI, LUSLIC | 16 | 2014 | 308 | 14<br>1,50,000 | | 53<br>4,44,040 | 67<br>5,94,040 | UC of Current Periodicals |
| 9. | Mysore | CFTRI, AIS | 12 | | | | | | | |
| 10. | Nagpur | NEERI | 23 | 1400 | 64 | | | | | |
| 11. | Pune | NCL | 27 | | | | 16<br>98,000 | 25<br>1,98,000 | 41<br>2,96,000 | UC of Current Periodicals in PSTL Compendium |
| 12. | Trivandrum | KLA | 15 | 2016 | 254 | | | | *<br>20,00,000 | |

* Indicates that it is not finalised.

in the scripts of sixteen Indian languages. Satisfied with the performance of the mini-micro version, Indian users are now eagerly waiting for the release of the UNIX version.

1.2 *Marketing of information products and services*

One of the specific objectives of the ASTINFO project undertaken by NISSAT was to develop a standard course material. Based on the inputs received from the pilot workshop held during November 27 to December 1, 1989, an enhancement on the UNESCO document PGI/88/WS/1 entitled "Guidelines for the Teaching of Marketing in the Training of Librarians, Documentations and Archivists" was prepared.

1.3 *Teaching aids and course materials on CDS/ISIS, CCF and MIS for special libraries*

NISSAT has constituted three small committees of experts to dwell on three components of this ASTINFO project. The teaching aids will be developed on OHP transparencies (in black and white to economise on reproduction) and also on STORYBOARD software. As course material, additional text is being compiled to supplement the mainline text already available on CDS/ISIS and CCF. The exercise on MIS will, however, involve new writing. The MIS component has provision for a regional workshop to test/demonstrate the teaching aids and software.

1.4 *Regional workshop on machine translation*

UNESCO supported the activity under the participation programme. The workshop was announced twice; first in September 1990 and then in February 1991. On both occasions, the response from possible resource persons/institutions was extremely poor and the workshop had to be postponed. The new dates are December 16-20, 1991.

1.5 *Oceanographic information*

The activity was nucleated at the National Institute of Oceanography, Goa with support from ASTINFO/UNESCO. The Institute as an Indian National ASFIS Centre (Aquatic Sciences and Fisheries Information System) includes various Indian publications relating to marine and brackish water aspects, in its database. It also carries out computerized literature search on ASFA database. The services of literature search as well as inclusion of publication in this database are carried out free of cost.

1.6 *APINMAP*

The publications and Information Directorate (PID) of the Council of Scientific and Industrial Research, is the regional as well as the national node of APINMAP. The PID has been developing the database on medicinal and aromatic plants using the MINISIS software on HP-3000/37. Besides Indian information, this node also covers Japanese material. PID contributed 930 records in 1990 and 1117 records in 1991 (upto August) to the APINMAP database.

1.7 *Project to promote development of an integrated information market in India*

An outline of the project submitted to UNESCO and UNIDO evoked considerable interest. A detailed project proposal is being prepared. The project may be submitted for extra-budgetary support.

## 2. Eighth Consultative Committee Meeting In Tsukuba

The plan of action of UNESCO's ASTINFO programme is discussed and approved by the Member States in Consultative Committee meetings. The 8th ASTINFO Consultative Committee meeting was held in Tsukuba, the Science City, Japan during September 24-29, 1991. While the host country (Japan) chaired the Session, India was elected Vice-Chairperson for the third consecutive term and Pupua New Guinea the Rapporteur. The meeting was preceded by a seminar and exposition on document supply and electronic publishing.

Before the Tsukuba meeting, NISSAT had requested project proposals/ideas from various national institutions. The proposals were discussed by the NISSAT Committee and a select list was forwarded to the UNESCO/ASTINFO for consideration. The list of projects as approved by the ASTINFO/CC is given in Table 1.

## 3. Ninth Consultative Committee Meeting — India

The next ASTINFO/CC meeting is scheduled to be held in India in 1993. "Library Networking" was identified as the topic of the Regional Seminar which would procede this meeting. □

## ASTINFO-NLA-NISSAT Document Supply Service

A regional document delivery service has been set up by ASTINFO/UNESCO. In the scheme the National Library of Australia supported by specialised organisations like the CSIRO, Australia would supply photocopy of documents at a cost of Australian $ 2 irrespective of the number of pages (that is about Rs. 40/- compared to Rs. 200/- charged by BLDSC for 10 pages or part thereof).

The service is open only to ASTINFO member countries, including India.

### Operation in India

As the national coordinating unit of ASTINFO, NISSAT has identified a set of institutions on logistics consideration, to handle the requests for services. (See list below).

Users may directly contact any of these institutions and place orders on prescribed forms. The service is priced on cost-recovery basis, (Australian $ 2 approximately plus handling charges payable in Indian rupees only).

However, before you use the system, please ensure that the required document is not available in India.

If you need any further clarification, contact NISSAT.

List of institutions handling ASTINFO-NISSAT Document Supply Services:

| | |
|---|---|
| NICTAS/ATIRA, Ahmedabad | Shri P.C. Shah |
| NICMAP/CMTI, Bangalore | Shri M.S. Srikantiah |
| IACS, Calcutta | Shri Basak |
| DESIDOC, Delhi | Shri J.P. Singh |
| IARI, Delhi | Shri Chhote Lal |
| INSDOC, Delhi | Shri R.P.S. Dhaka |
| NASSDOC, Delhi | Shri K.G. Tyagi |
| IICT, Hyderabad | Shri I.R.N. Goudar |
| NICDAP/CDRI, Lucknow | Dr S.S. Iyer |
| IIT, Madras | Shri M N. Seetharaman |
| NICHEM/NCL, Pune | Shri R.S. Singh |
| NEHU, Shillong | Prof J.C. Binwal |

## Technical Communication Training Course Rescheduled in February 1992

The Fifth training Course in Technical Communication Organised by Society for Information Science (SIS) and sponsored by NISSAT (DSIR) is now scheduled about the middle of February 1992 at NISTADS, New Delhi, The Course, earlier programmed last November had to be unavoidably postponed.

The programme has several new features to enable scientists, technologists, writers, editors and publishers to upgrade their communication skills and cope with present-day communication problems and responsibilities. Handling modern print media, organising and writing research papers, reports, theses, press handouts and making visual presentations are some of the topics which will be dealt with by well known experts in the field. Participation is limited so please hurry. Nominations will be entertained on first-come-first-serve basis.

For further information, contact the Secretary, Society for Information Science C/o PID, Hillside Road, New Delhi-110 012.

# News and Events

### IFLA General Conference, New Delhi

The 58th General Conference of the International Federation of Library Associations and Institutions will be held in New Delhi during 30 Aug.–5 Sept.1992 to coincide with Birth Centenary Celebration of Dr S.R. Ranganathan, the Father of Indian Library Movement.

The theme of the Conference is **Library and Information Policy and Perspectives.**

The sub-topics are:

a) Conceptual framework for national library and information policies.
b) organization and design of national library system for effective operations — differences between the regions around the world.
c) Role of public, academic and special libraries in providing information needs.
d) Users and their needs.
e) Staff-training and development.
f) Impact of national policies on scientific, technical, cultural and social development.
g) Role of regional and international cooperation.

An official pre-conference seminar will be organized for libraries from the developing countries on the theme image, status and reputation of the library and information profession.

An International Exhibition of Books and Information Technology has also been scheduled from 31 August to 4 September 1992.

For further information write to Shri S.C. Biswas, Secretary General, Indian Organizing Committee (IFLA 1992), IFLA Secretariat, 14 Satsang Vihar Marg, New Delhi-110 067.

### Information Technology and National Development : International Conference at BHU

Application of information technology for development of various sectors of national economy in the control theme of an international conference being organized by Banaras Hindu University during 16-17 December 1991 at Varanasi. The Department of Library and Information Science and the Department of Computer Engineering, Institute of Technology (BHU) are the conference organizers while the International Development Research Centre (Canada) South Asia Regional Office, New Delhi is sponsoring the event. The conference is dedicated to the Platinum Jubilee year of BHU.

**Topics**

1. *Information Technology Applications for Development in:*
   - Agriculture and agro-industry.
   - Social, economic, organisational and management aspects : Decision Support Systems, Expert Systems, Knowledge Systems, Artificial Intelligence, Office Automation.
   - Industrial Production; Process Industries: CAD, CAM, and ROBOTICS.
   - Banks and Retailing.
   - Communications.
   - Education and Literacy Drive.
   - Health Delivery.
   - Environment.
   - Publication.
   - Information Technology and Society.
2. *Information, Information Systems and Services:*
   - Conceptual and theoretical issues of information as a resource for productivity enhancement.
   - Nature of information required for development.
   - National Information Systems: existing situation and needs.
   - Building indigenous capability and infrastructure to ensure accessibility and utilization of information for development by the end users such as government, research and development establishments, the productive sector, professional and individual entrepreneurs in the different sectors and geographical locations including the rural region.
   - Establishing or strengthening material infrastructure to facilitate the availability of and access to information resources.
   - Constraints on the flow of information from internal and external sources; technology transfer and flow of information.
   - Establishing network for the exchange of information.
   - National Information Policy.
   - Information Technology and Libraries.

### AGLIS Annual Convention

Marketing of information services and products is the theme of the forthcoming one-day AGLIS Annual Convention and Seminar to be held in New Delhi on 24 December, 1991.
Delegation Fee : Rs 75 for members
Rs 100 for non-members

Last Date for receipt of papers is 10 Dec.1991.
Contact : Shri Ambrish Kumar, Secretary, AGLIS
C/o DESIDOC, Metcalfe House, Delhi-110054.

### MINISIS User Group Meeting November, 1992

The SNDT Women's University will host 13th International MINISIS User Group Meeting at Bombay during 9-13 November, 1992.

It is expected that Version 1+ of MINISIS as well as the micro computer version will be demonstrated at the meeting.

### UNIMARC/CCF Workshop

A Workshop on UNIMARC/CCF was organized by IFLA with UNESCO's financial support, from 5 to 7 June, 1991 in Florence, Italy. It gathered specialists and librarians from all over the world.

The main purpose of this workshop was to promote a wider awareness of the two exchange formats, UNIMARC and CCF, and their implementation on various software packages such as CDS/ISIS.

The resolutions recommended that :

- support of both UNIMARC and CCF be reaffirmed and that the value of each in appropriate circumstances be recognized;
- the bodies entrusted with the maintenance of the two formats (UNIMARC Committee and CCF *ad hoc* Group) ensure continuing liaison and cooperation, and that a review of progress following this workshop take place within two years;
- both bodies promote universal awareness of their formats through education and training, publication of manuals, translations, and dissemination by other appropriate means in partnership with international bodies, and that they facilitate the establishment of performance testing procedures;
- professional staff with appropriate expertise be made available on a continuing basis to support the work of each of the two maintenance bodies;
- both bodies take particular account of the following issues : the multilingual needs of users and the needs of the variety of cultures; developments in authority control as a bridge between languages, cultures and communities; the need to review the content of records in the light of developments in computing and networking and in new media; awareness and evaluation of developments that may affect handling of data in the future.
- the proceedings of this Workshop be published and dedicated to the memory of A.L. van Wesemael, former IFLA Deputy Secretary General.

### MINISIS Use in India : Report

According to a preliminary report based on response of some users of MINISIS, there are more than 100,000 computerised bibliographic records in MINISIS in India. The bibliographic databases created by these users, their scope and size are shown in Table 1.

In addition, information about serials subscribed and holdings is maintained in separate databases at NCAER, JNU and SNDT.

**Table 1 Bibliographic Databases Created in India**

| User Name | Database Name | Scope | No. of Records |
|---|---|---|---|
| CERC | LIBDAT | Books on Consumer and Environmental protection | 1,200 |
| CSIR-PID | MAPA | Journal articles on Medicinal and Aromatic plants | 8,000 |
| JNU | DOC2 | Periodical articles in Social Science and Area Studies | 20,000 |
| JNU | SS1 | Books in Social Sciences | 6,000 |
| JNU | SC1 | Books in Sciences | 2,000 |
| JNU | HUM1 | Books in Humanities and European languages | 5,000 |
| JNU | IWA4 | Documents on Foreign Relations of India | 3,000 |
| National Library | ACON | English books acquired by library | 2,000 |
| NCAER | CURA | Economic literature on India and South Asia | 21,000 |
| NCAER | KITAB | Books on Energy available in the library | 350 |
| SNDT | Suchak | Books, journal articles, thesis and conference papers from 1986 in Sociology, Women's Studies, Home Science, Special Education and Library Science | 40,000 |

### Earth Science Database on Aspects of Indian Geology Generated

A comprehensive bibliographic database for the entire publications of the Geological Society of India covering Journals, Memoirs and Bulletins of the Society for a thirty-year period commencing the year 1958 to date has been created. This has involved entering of 3,000 records. It is now possible to retrieve data relating to any publication during this period. The system has been developed and is working satisfactorily. Bibliographic information is being furnished to those who request for the same. Although requests for information retrieval are not as many as earlier anticipated, they are slowly growing in volume. Bibliograpic data was originally entered on the basis of a specially designed indigenous software, but has now been transferred to the CDS/ISIS system. The project has been carried out with financial support of DSIR, New Delhi.

For further information contact, Editor, Geological Society of India, P.O. 1922, Gavipuram, Bangalore-560 019.

### Single-article Distribution Service

A US firm, The Faxon Company, is to introduce a range of services which send individual articles to those who cannot afford to subscribe to journals.

Faxon claims that its methods will address the legitimate concerns of publishers more effectively than traditional, photocopying-base services. In fact, journal subscriptions will be stimulated, it says.

The company hints that they will involve its electronic network, linking over 30,000 publishers to more than 60,000 libraries worldwide.

A subsidiary company, Faxon Research Services, Inc., has been formed to provide these and other document delivery and current awareness services.

*Information World Review*, July 1991.

**Scanner to Speed Reader**

Less than one per cent of the world's information is stored on computer, with four per cent on microfilm or magnetic tape. This leaves an astonishing — in the face of the explosion in the number of computers in recent years — 95 per cent still kept on good old paper.

Optical scanners can "read" pages into computers, but they have remained far too slow and inaccurate to be the panacea for a paperless society.

Until now? A company from Virginia, USA claims to have a system that can read and index more than 1,000 pages an hour. That's about 10 times faster than most of its current rivals. The breakthrough is thanks to the use of multiple processors to scan more quickly and accurately. What is more, the makers, Infinite Images International Inc., claim that their Parallax system cuts the cost of a scanned page from around 50 cents (US) to just a few cents.

The new system which runs software from Californian company Calera Recognition Systems Inc., costs from USD 80,000 to USD 750,000, depending on the number of processors in the computer.

*Business Week*, June, 1991.

**New Thesaurus on Information and Communication**

The Communication and Information Thesaurus has been prepared by Jane Aitchison under contract to the International Federation for Information and Documentation (FID), with financial support from the United Nations Educational, Scientific and Cultural Organization (Unesco), the International Programme for the Development of Communication and the Friedrich-Ebert-Stiftung. It will shortly be available in English, French and Spanish versions in both printed and electronic formats.

**Database Speaks 15 Languages**

A talking database that allows organizations to provide information in up to 15 languages has been launched by a US company, Multiverse.

The Multilang 15 works by asking callers to press a touchtone telephone key that designates their choice of languages, for example, "to converse in English, press 1; pour parler en francais, poussez 2", and so on. Communication then begins in the user's chosen language.

Multilang 15, say the makers, combines voice and data processing capabilities in a single unit. On the voice-processing side, these include an automated receptionist, voice mail, audiotext outbound dialling and PBX integration.

Data-processing features include order entry, inventory and shipment status, and front-ending mainframe computers.

Four to 16 callers can be handled simultaneously.

Use of Multilang 15 has been authorized in the UK and seven other western European countries. Approvals for other countries are said to be in hand. Prices start at USD 2500. For more information, Contact : Multiverse, 148 W 77 St, Suite 3a, New York, NY 10024, USA.

*Information World Review*, June 1991

**UNEP/Information Clearinghouse Database**

Moves to clean up industry by encouraging minimization of waste and the reduction or elimination of pollution have received a shot in the arm with the establishment of a database to share expertise and research-and-development information, as well as facilitating technology transfer.

The database was agreed on in 1990 at a conference organized by the Paris-based Industry and Environment Office of the United Nations Environment Programme (UNEP). It is known as the International Cleaner Production Information Clearinghouse, or ICPIC.

The database is based on the existing Pollution Prevention Information Exchange System, run by the US Environmental Protection Agency, but it aims to coordinate information currently held in many less comprehensive databases. It is designed for use by research institutions, industry, governments and non-governmental and public interest groups.

The UNEP initiative, is highlighting the importance of a switch to cleaner production methods. For instance, one metal working company looked at substituting halogenated solvent degreasers with commercially available terpene-based substitutes, extracted from citrus fruit. Trials proved effective and the company went further. They substituted the original mineral oils used in machining with vegetable-based biodegradable oils. This eliminated the need for any degreasers apart from a mild alkaline rinse, and removed the disposal cost of the mineral oil.

**Institute for New Technologies**

The United Nations University (UNU), in collaboration with the Government of the Netherlands, has recently set up an Institute for New Technologies (UNU/INTECH) at Maastricht, the Netherlands.

The objective of the institute is to undertake policy-relevant research on the economic and social impacts of new technologies, especially — though not exclusively — on developing countries. To do so, UNU/INTECH seeks to set up a small, in-house team of researchers, composed of economists, political scientists, sociologists and technologists.

### IEC/ISO Information Centre

The information Centre located at the International Organization for Standardization (ISO) Central Secretariat is now acting as a joint ISO/International Electrotechnical Commission (IEC) Information Centre. It will also be the ISONET international node for both organizations (ISONET is ISO's information network).

Within ISONET, the Centre will be a focal point for information on international standards and normative documents. It will provide information on ISO and IEC standards to other international information systems such as AGRIS and INIS, coordinated by the Food and Agriculture Organization of the United Nations (FAO) and the International Atomic Energy Agency (IAEA) respectively.

The Centre will also be responsible for preparation of publications such as the KWIC Index of International Standards, and selective lists of ISO and IEC standards in given fields. The Centre can also put outsiders in touch with national standards bodies.

The Centre's library, containing, *inter alia*, full collections of ISO and IEC standards is now used by staff and visitors of ISO and IEC central offices.

*ISO Bulletin*, March, 1991

### Directory of National Machinery for Advancement of Women

Prepared by the United Nations Division for the Advancement of women, with the aim of providing new channels of communication and cooperation among women's organizations worldwide, the 1991 edition of this directory includes, entries from 110 countries, and information for another 36.

"National Machinery" is taken to mean any organizational structure established with particular responsibility for the advancement of women and the elimination of discrimination against them at the national level. These include governmental, non-governmental and joint government/NGO bodies, but all of which are recognized by their governments as the national machinery for the advancement of women.

### CDS/ISIS Course for BHEL Unit Librarians

At the request of the Department of Advanced Technical Education of the Bharat Heavy Electricals Ltd., (BHEL) Hyderabad, the Society for Information Science conducted a five-day CDS/ISIS course for the librarians of BHEL units. Twenty participants from various units were given hands on training on CDS/ISIS package by using PCBs. Course material, manuals and CDS/ISIS package (3 floppies) were provided to each participant. The participants who are working as librarians in executive and supervisory positions, were fully made conversant with the package and its capabilities. The BHEL units represented were, Bhopal, Jhansi, Tiruchirapalli, Madras, Hyderabad, Bangalore and New Delhi.

The Faculty for the Course comprised Mr A. Wahid (NISTADS), Mrs S. Ravindran, (NISSAT), Mr Subhash Deshmukh, TERI and Mr S.N. Sur (INSROC).

The Course, held during 30 Sept-5 Oct. 1991, at NISTADS, New Delhi was cosponsored by the NISSAT (DSIR).

### *Minisis Patrika*

The MINISIS Resource Centre, SNDT Women's University, Bombay has brought out a Newsletter, under the above title, the release of the first issue (Oct. 1991) Coincides with the first meeting of the Indian users of MINISIS.

The Resource Centre set up as a project of IDRC, Ottawa is intended to conduct MINISIS training courses and provide support services and assistance to Indian users.

The Newsletter will be published twice a year. It will carry articles about any aspect of MINISIS and its application and about information technology in general.

### *Sanchaya* : Bibliography of Indian Geology

The Geological Society of India is rendering a comprehensive bibliographical service. The information is published in a quarterly journal under the above title. Leading journals in earth sciences are scanned and all aspects of Indian geology are covered. Abstracts of the information contained in the papers are provided. The information has been computerised and three volumes of *Sanchaya* have been brought out so for.

For further details contact Editor, Geological Society of India, P.B. No. 1922, Gavipuram P.O. Bangalore-560019.

### *Ceramics Update*

A quarterly published by the National Information Centre on Advanced Ceramics (NICAC) of NISSAT leased at CGCRI, Calcutta, the publication disseminates information culled out from a few selected international periodicals and reports dealing with advanced ceramics, high-TC ceramic superconductors, refractories, composites and allied materials. The information is presented under the following sections : Materials/Products/Processes and Indian Industrial and Technological Briefs. The material is arranged under appropriate subject headings. A key word index in also provided for easy retrieval. There is an additional feature of Ceramics Update which deals with forthcoming conferences in the area of glass and ceramics.

The Jan.-March, 1991 issue contains notes from five international periodicals and reports. The scope could perhaps be widened by enlarging the number of source publications.

Ceramics Update has an annual subscription of Rs.400, single copy is priced at Rs.100. Contact Editor, *Ceramics Update*, CGCRI, Calcutta-700 032.

### CD-ROM Database at IIM Calcutta

The BC Roy Memorial Library, Indian Institute of Management, Calcutta has recently installed CD-ROM in Print: an international guide in CD-ROM, published by Meckler. The database covers 1600 titles commercially available in Compact Disk edition. Each record includes information about descriptive details, providers, hardware/software and subscription rates.

The Library would extend information service free of charge till December, 1991. Those interested may write to: Librarian, Indian Institute of Management Calcutta, Diamond Harbour Road, Post Box No, 16757, Alipore Post Office, Calcutta-700 027.

**Database of Libraries in India**

NISSAT has awarded a project on "Creation of Database of Libraries in India" to Indian Library Association. The database is expected to cover about 10,000 Library and Information Centres in the country. The database will be computerised using CDS/ISIS package. ILA has already despatched the questionnaires to various Library and Information Centres. Those who have not received the questionnaire may kindly contact: Prof. C.P. Vashisth, Indian Library Association, A/40-41, Flat No. 201, Ansal Building, Mukherjee Nagar, Delhi-110 009.

**CFTRI Monographs**

The Central Food Technological Research Institute, Mysore has just brought out under the Industrial Monograph Series, a new Monograph entitled "LITCHI IN INDIA—Production, Preservation and Processing". The Monograph covers the following aspects: propagation, cultivation, pests and diseases, physico-chemical composition, yield and harvesting, physiological disorders, grading, packaging, transportation and storage, and physico-chemical changes during ripening and processing. An exhaustive list of references and an appendix of equipment/machinery (with suppliers' address) required for manufacture of litchi products, are useful additions. The publication is priced at RS. 40 (Postage extra).

Other Monographs published in the same series relate to Pineapple Pepper, Papaya, Grapes, Banana, Mandarin Orange, Mango and Guava.

For copies, please write to the Head, FOSTIS, CFTRI, Mysore-570 013.

**Transfer of Technology : NISIET Training Programme**

The National Institute of Small Industry Extension Training, Hyderabad is organizing a training programme on 'Transfer of Technology' during 6-10 January 1992.

The programme is aimed at providing technology orientation and understanding of effective transfer of technology system to the participants. The participation fees is Rs. 1500 and covers cost of tuition, reading material, field visits and board and lodging. For further particulars contact the Registrar, NISIET, Yousufguda, Hyderabad 500 045.

---

## ATTENTION

### Professional Bodies In Information Science

NISSAT is considering the possibility of involving more and more professional bodies in the country in its activities like conducting training courses, creation of databases, technical surveys etc. The objective is to achieve speedy implementation of its schemes in all geographical regions of the country and at the same time to stimulate the activities of the professional bodies.

Those who like to participate in this scheme may send the calendar of events for the period April 92–March 93 by **15 January 1992** to the Jt. Adviser, NISSAT, Department of Science and Technology, New Mehrauli Road, New Delhi-110016.

R.N.-34608/78
RNI New Delhi

Laser Typeset by ADR Enterprises, Saket, New Delhi-110017
Printed at: Natraj Printers, 80F, Kamla Nagar, Delhi-110007